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ATLAS OF THE FLORA OF NEW ENGLAND: ROSACEAE

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ABSTRACT

Dot maps are provided to depict the distribution at the county level of the taxa of Magnoliophyta: Rosaceae growing outside of cultivation in the six New England states of the northeastern United States. The maps treat 270 taxa (species, subspecies, varieties, and hybrids, but not forms) based primarily on specimens in the major herbaria of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut, with most data derived from the holdings of the New England Botanical Club Herbarium (NEBC). Brief synonymy (to account for names used in standard manuals and floras for the area and on herbarium specimens), habitat, chromosome information, and common names are also provided.

KEY WORDS: flora, New England, atlas, distribution, Rosaceae

This article is the tenth in a series (Angelo & Boufford 1996, 1998, 2000, 2007, 2010, 2011a, 2011b, 2012a, 2012b) that presents the distributions of the vascular flora of New England in the form of dot distribution maps at the county level (Figure 1). The atlas is posted on the internet at http://neatlas.org, where it will be updated as new information becomes available.

This project encompasses all vascular plants (lycophytes, pteridophytes and spermatophytes) at the rank of species, subspecies, and variety growing independent of cultivation in the six New England states. Hybrids are also included, but forms and other ranks below the level of variety are not. The dots are based on voucher specimens primarily in New England herbaria (of colleges, universities, botanical gardens, and public museums) representing reproducing populations outside of cultivated habitats. This tenth installment includes the family Rosaceae (Magnoliophyta). Of the 283 taxa treated (270 mapped), 95 are not native to the region. Future accounts will treat the distribution of additional non-monocot angiosperms.

The habitat data are distillations from a variety of sources augmented by our own field observations. An attempt was made to indicate habitat information as it applies to a particular taxon in New England rather than to the entire range of the taxon. Habitat information is not provided for hybrid taxa.

It is our hope that these articles will stimulate additional field work to supplement the distributions portrayed in the maps. The New England Botanical Club herbarium has proven to be the most important resource for this project. We are eager to receive information on voucher specimens in public herbaria documenting range extensions and filling county gaps in distributions. Similarly, because the atlas of the New England flora will be continuously updated as new information becomes available, we are eager to receive notification of published corrections of cytological information and new, documented chromosome counts for taxa in the New England flora.

MATERIALS AND METHODS

Materials and methods are as outlined in Angelo and Boufford (1996) and in a web version (Angelo & Boufford 2011c) and are not repeated here.

TAXONOMY AND FORMAT

The taxonomy and nomenclature adopted for this work essentially follow that of draft treatments for the Flora of North America project, except for *Crataegus* and *Rubus* (as explained in the sections for those genera) and except that families, genera, and species are arranged alphabetically. The families and their circumscription do not necessarily reflect current views on relationships or composition. The Angiosperm Phylogeny Website (Stevens 2001 onwards) should be consulted for a continuously updated treatment of families and their inclusive genera. Named and unnamed hybrid taxa are placed alphabetically at the end of the genus in which they occur. Unnamed hybrids combine the names of the progenitors alphabetically by epithet. Taxa that are not native to New England are indicated by uppercase text. Unpublished names are not used, even if publication is pending.

Chromosome numbers are taken primarily from draft treatments for the Flora of North America project and from Goldblatt and Johnson (1979–).

Synonymy is provided primarily with respect to names accepted in standard manuals covering New England published from 1950 onward, including Fernald (1950), Gleason and Cronquist (1991), and Seymour (1982) and on herbarium labels in New England herbaria. Synonyms have not been provided where the distribution for the synonymized name does not include New England.

The following list (which includes excluded taxa) will aid readers in finding familiar names that have been transferred to other taxa:

Cydonia (in part)	=>	*Chaenomeles*
Dalibarda	=>	*Rubus*
Potentilla (in part)	=>	*Comarum*
Potentilla (in part)	=>	*Dasiphora*
Potentilla (in part)	=>	*Drymocallis*
Potentilla (in part)	=>	*Duchesnea*
Potentilla (in part)	=>	*Sibbaldiopsis*
Pyrus (in part)	=>	*Aronia*
Pyrus (in part)	=>	*Malus*
Pyrus (in part)	=>	*Sorbus*
Sanguisorba (in part)	=>	*Poteridium*

The following species have been reported from our area but are excluded for the reasons noted:

ARUNCUS DIOICUS (Walter) Fernald var. *VULGARIS* (Maximowicz) H. Hara [no voucher found; reported from Maine]

MALUS HUPEHENSIS (Pampanini) Rehder [no voucher found; reported from Massachusetts]

MALUS MANDSHURICA (Maximowicz) Komarov *ex* Juzepczuk [no voucher found; reported from Massachusetts]

POTENTILLA ALBA Linnaeus [no voucher of wild occurrence found; reported from Connecticut and Massachusetts]

POTENTILLA COLLINA Wibel [no voucher found; reported from Massachusetts]

POTENTILLA ERECTA (Linnaeus) Raeuschel [no voucher found; reported from Massachusetts]

PRUNUS SPECIOSA (Koidzumi) Nakai [no voucher found; reported from Massachusetts]

ROSA CAROLINA Linnaeus subsp. *SUBSERRULATA* (Rydberg) W.H. Lewis (*R. CAROLINA* Linnaeus var. *SETIGERA* Crépin) [no voucher found; reported from Maine, New Hampshire and Vermont]

ROSA MULTIFLORA Thunberg var. *CALVA* Franchet & Savatier [voucher has been re-identified as *R. MULTIFLORA* var. *MULTIFLORA*; reported from Massachusetts]

ROSA SEMPERVIRENS Linnaeus [no voucher found; reported from Massachusetts]

ROSA TOMENTOSA Smith [no voucher found; reported from Vermont]

Rosa × *palustriformis* Rydberg (*pro species*), (*R. blanda* Aiton × *R. palustris* Marshall) [no voucher found; reported from Maine]

Rubus arcticus Linnaeus subsp. *acaulis* (Michaux) Focke (*R. acaulis* Michaux) [no voucher found; reported from Maine]

RUBUS PARVIFLORUS Nuttall [no voucher found; reported from Massachusetts]

SORBUS ALNIFOLIA (Siebold & Zuccarini) K. Koch [no voucher found; reported from Massachusetts]

SORBUS HYBRIDA Linnaeus (*Pyrus hybrida* (Linnaeus) Smith) [no voucher of wild occurrence found; reported from Maine, New Hampshire and Vermont]

SORBUS × *THURINGIACA* (Nyman) Schönach (*S. ARIA* (Linnaeus) Crantz × *S. AUCUPARIA* Linnaeus) [no voucher found; reported from New Hampshire and Vermont]

SPIRAEA CORYMBOSA Rafinesque [no voucher of wild occurrence found; reported from Massachusetts]

SPIRAEA SALICIFOLIA Linnaeus [no voucher found; reported from Vermont]

ANGIOSPERMAE (MAGNOLIOPHYTA) - ANGIOSPERMS

ROSACEAE

AGRIMONIA EUPATORIA Linnaeus—Church Steeples (Figure 2). 2*n* = 28, 56. Waste places, fields. From Eurasia, northern Africa.

Agrimonia gryposepala Wallroth—(Figure 2). 2*n* = 56. Thickets, deciduous or mixed woods, roadsides.

Agrimonia microcarpa Wallroth—(Figure 2). 2*n* = ? Rocky woods.

Agrimonia parviflora Aiton—(Figure 2). 2*n* = 28. Calcareous river thickets, riverbanks, meadows, moist woods in circumneutral soil, moist, sandy roadsides.

Agrimonia pubescens Wallroth—(Figure 2). 2*n* = 28. Rich, open, deciduous or mixed woods, swamps. [*A. bicknellii* (Kearney) Rydberg; *A. mollis* (Torrey & A. Gray) Britton; *A. mollis* var. *bicknellii* Kearney]

Agrimonia rostellata Wallroth—Woodland Agrimony (Figure 2). 2*n* = 28. Dry, open, rocky woods.

Agrimonia striata Michaux—(Figure 2). 2*n* = 56. Thickets, woodland borders, woods.

ALCHEMILLA FILICAULIS Buser subsp. *VESTITA* (Buser) M.E. Bradshaw—(Figure 2). 2*n* = ca. 101-109. Wool waste. From Europe. [*A. VULGARIS* Linnaeus var. *VESTITA* (Buser) Fernald & Wiegand]

ALCHEMILLA MONTICOLA Opiz—(Figure 2). 2*n* = 101-104, 106-110. Woods, fields, roadsides. From Eurasia. [*A. PRATENSIS* – misapplied; *A. VULGARIS* – misapplied]

Amelanchier arborea (F. Michaux) Fernald—Downy Shadbush (Figure 3). 2*n* = 34, 68. Rocky, upland or dry, rich woods, thickets.

Amelanchier bartramiana (Tausch) M. Roemer—Mountain Shadbush (Figure 3). 2*n* = 34, 68. Cold swamps, bogs, moist thickets, cool woods, bushy slopes, mountain summits.

Amelanchier canadensis (Linnaeus) Medikus var. *canadensis*—Eastern Shadbush (Figure 3). 2*n* = 34, 51, 68. Woods, moist thickets, swamps, marsh borders. [*A. oblongifolia* (Torrey & A. Gray) M. Roemer var. *oblongifolia*]

Amelanchier gaspensis (Wiegand) Fernald & Weatherby—(Figure 3). 2*n* = ? River shores and their outcrops.

Amelanchier humilis Wiegand—(Figure 3). 2*n* = 34, 68. Calcareous ledges.

Amelanchier interior E.L. Nielsen—(Figure 3). 2*n* = 68. Rocky slopes, stream banks, sandy areas. [*A. wiegandii* E.L. Nielson]

Amelanchier intermedia Spach—(Figure 3). 2*n* = 68. Swamps, bogs, thickets, shores.

Amelanchier laevis Wiegand—Smooth Shadbush (Figure 3). 2*n* = 34, 68. Woodland borders, damp thickets, fields, roadsides.

Amelanchier nantucketensis E.P. Bicknell—(Figure 3). 2*n* = 28. Dry fields, sandy grasslands, heaths, pine barrens, pond and river shores among rocks or in sand. [*A. canadensis* (Linnaeus) Medikus var. *micropetala* (B.L. Robinson) Rehder; *A. oblongifolia* (Torrey & A. Gray) M. Roemer var. *micropetala* B.L. Robinson]

Amelanchier sanguinea (Pursh) de Candolle—Red-twigged Shadbush (Figure 4). 2*n* = 34, 51, 68. Riverbanks, ledges, woodland borders.

Amelanchier spicata (Lamarck) K. Koch—Thicket Shadbush (Figure 4). 2*n* = 51, 68. Rocky or sandy, open habitats, typically in acidic soil. [*A. stolonifera* Wiegand]

—*Amelanchier* hybrids —

Amelanchier arborea (F. Michaux) Fernald × *A. bartramiana* (Tausch) M. Roemer—(Figure 4).

Amelanchier arborea (F. Michaux) Fernald × *A. canadensis* (Linnaeus) Medikus var. *canadensis*—(Figure 4).

Amelanchier arborea (F. Michaux) Fernald × *A. laevis* Wiegand—(Figure 4).

Amelanchier arborea (F. Michaux) Fernald × *A. spicata* (Lamarck) K. Koch—(Figure 4).

Amelanchier bartramiana (Tausch) M. Roemer × *A. canadensis* (Linnaeus) Medikus var. *canadensis*—(Figure 4).

Amelanchier bartramiana (Tausch) M. Roemer × *A. spicata* (Lamarck) K. Koch—(Figure 4).

Amelanchier canadensis (Linnaeus) Medikus var. *canadensis* × *A. laevis* Wiegand—(Figure 4).

Amelanchier canadensis (Linnaeus) Medikus var. *canadensis* × *A. spicata* (Lamarck) K. Koch—(Figure 5).

Amelanchier humilis Wiegand × *A. laevis* Wiegand—(Figure 5).

Amelanchier laevis Wiegand × *A. sanguinea* (Pursh) de Candolle—(Figure 5).

Amelanchier laevis Wiegand × *A. spicata* (Lamarck) K. Koch—(Figure 5).

Amelanchier × *neglecta* Eggleston *ex* G.N. Jones (*pro species*)—(Figure 5). [*A. bartramiana* (Tausch) M. Roemer × *A. laevis* Wiegand]

Amelanchier sanguinea (Pursh) de Candolle × *A. spicata* (Lamarck) K. Koch—(Figure 5).

Aronia arbutifolia (Linnaeus) Persoon—Red Chokeberry (Figure 5). 2*n* = 34, 68 (New England). Low woods, thickets, swamps, shores. [*Photinia pyrifolia* (Lamarck) K.R. Robinson & J.B. Phipps; *Pyrus arbutifolia* (Linnaeus) Linnaeus f.]

Aronia melanocarpa (Michaux) Elliott—Black Chokeberry (Figure 5). $2n = 34$ (New England), 68 (outside New England). Low woods, thickets, swamps, shores, sand dunes, dry, rocky slopes, bluffs, clearings, roadsides. [*A. arbutifolia* (Linnaeus) Persoon var. *nigra* (Willdenow) F. Seymour; *Photinia melanocarpa* (Michaux) K.R. Robinson & J.B. Phipps; *Pyrus melanocarpa* (Michaux) Willdenow]

— *Aronia* hybrid —

Aronia × *prunifolia* (Marshall) Rehder (*pro species*)—Purple Chokeberry (Figure 5). Swamps, shores, low thickets, clearings. [*A. arbutifolia* (Linnaeus) Persoon × *A. melanocarpa* (Michaux) Elliott; *A. arbutifolia* (Linnaeus) Persoon var. *atropurpurea* (Britton) F. Seymour; *A. atropurpurea* Britton; *A. floribunda* (Lindley) Sweet; *Photinia floribunda* (Lindley) K.R. Robinson & J.B. Phipps; *Pyrus floribunda* Lindley]

ARUNCUS DIOICUS (Walter) Fernald var. *DIOICUS*—Buck's-beard (Figure 6). $2n = 18$. Waste places, roadsides, openings and borders of mixed woods. From farther west and south.

CHAENOMELES JAPONICA (Thunberg) Lindley *ex* Spach—Japanese Flowering-quince (Figure 6). $2n = 34$ (India). Railroad ditches, moist woods. From Japan. [*CYDONIA JAPONICA* (Thunberg) Persoon]

CHAENOMELES SPECIOSA (Sweet) Nakai—Chinese Flowering-quince (Figure 6). $2n = 34$. Woods by pond shore, roadsides, thickets. From China, southeastern Asia. [*CYDONIA SPECIOSA* Sweet]

Comarum palustre Linnaeus—Marsh Cinquefoil (Figure 6). $2n = 28, 42$. Pond and lake shores, meadows, marshes, bogs, swamps. [*Potentilla palustris* (Linnaeus) Scopoli var. *palustris*; *P. palustris* var. *villosa* (Persoon) Lehmann]

COTONEASTER DIVARICATUS Rehder & E.H. Wilson—(Figure 6). $2n = ?$ Shady thickets, epiphyte in fork of maple tree. From China.

Crataegus taxonomy

Due to the significant diversity of taxonomic treatments for this genus over the years and the complicated reproductive mechanisms known to occur (hybridization, polyploidy, aneuploidy, apomixis), the listing here largely follows that of Gleason and Cronquist (1991) which groups many species considered separate by others. The works of Phipps and Muniyamma (1980) and of Kruschke (1965) have been used to place some names in synonymy. Certain obscure taxa collected only a few times in limited locations are listed here without mapping. The reforestation of New England since the early 20th century has greatly reduced the open habitat and fencerows preferred by members of this genus, making it likely that obscure taxa and many hybrids will never be seen again.

Crataegus baccata Sargent—obscure taxon known only from historic collections in Worcester County, Massachusetts.

Crataegus brainerdii Sargent—(Figure 6). $2n = ?$ Thickets, fields, woodland margins, roadsides. [*C. brainerdii* var. *asperifolia* (Sargent) Eggleston; *C. brainerdii* var. *cyclophylla* (Sargent) E.J. Palmer; *C. brainerdii* var. *egglestonii* (Sargent) B.L. Robinson; *C. brainerdii* var. *scabrida* Eggleston; *C. asperifolia* Sargent; *C. cyclophylla* Sargent; *C. egglestonii* Sargent; *C. scabrida*

Sargent var. *scabrida*; *C. scabrida* var. *asperifolia* (Sargent) Kruschke; *C. scabrida* var. *cyclophylla* (Sargent) Kruschke; *C. scabrida* var. *egglestonii* (Sargent) Kruschke]

Crataegus bristolensis Sargent—obscure taxon known only from historic collections in Bristol County, Massachusetts.

Crataegus calpodendron (Ehrhart) Medikus—Pear Hawthorn (Figure 6). $2n = 34$. Thickets, open woods, woodland margins.

Crataegus chrysocarpa Ashe—Round-leaved Hawthorn (Figure 6). $2n = 34, 68$. Thickets, fields, woodland margins, roadsides. [*C. chrysocarpa* var. *blanchardii* (Sargent) J.B. Phipps; *C. chrysocarpa* var. *faxonii* (Sargent) Eggleston; *C. chrysocarpa* var. *phoenicea* E.J. Palmer *ex* J.B. Phipps; *C. chrysocarpa* var. *praecox* (Sargent) J.B. Phipps; *C. brunetiana* Sargent var. *brunetiana*; *C. brunetiana* var. *fernaldii* (Sargent) E.J. Palmer; *C. dodgei* Ashe; *C. faxonii* Sargent var. *faxonii*; *C. faxonii* var. *praetermissa* (Sargent) E.J. Palmer; *C. fernaldii* Sargent; *C. flavida* Sargent; *C. irrasa* Sargent var. *irrasa*; *C. irrasa* var. *blanchardii* (Sargent) Eggleston; *C. jonesae* Sargent; *C. keepii* Sargent; *C. laurentiana* Sargent var. *brunetiana* (Sargent) Kruschke; *C. lumaria* Ashe; *C. oakesiana* Eggleston; *C. praecoqua* Sargent – illegitimate name; *C. rotundata* Sargent; *C. rotundifolia* – misapplied]

Crataegus coccinea Linnaeus—Scarlet Hawthorn (Figure 6). $2n = 34, 68$. Thickets, fields, woodland margins, roadsides. [*C. coccinea* var. *pringlei* (Sargent) J.A. Macklin & J.B. Phipps; *C. corusca* – misapplied; *C. eamesii* Sargent; *C. holmesiana* Ashe var. *holmesiana*; *C. holmesiana* var. *magniflora* (Sargent) E.J. Palmer; *C. holmesiana* var. *villipes* Ashe; *C. magniflora* Sargent; *C. pedicellata* Sargent var. *pedicellata*; *C. pedicellata* var. *robesoniana* (Sargent) E. J. Palmer; *C. polita* Sargent; *C. pringlei* Sargent var. *pringlei*; *C. pringlei* var. *exclusa* (Sargent) Eggleston; *C. pringlei* var. *lobulata* (Sargent) Eggleston; *C. sejuncta* Sargent]

Crataegus coccinioides Ashe—Kansas Hawthorn (Figure 7). $2n = ?$ Thickets, fields, woodland margins, roadsides. [*C. dilatata* Sargent]

Crataegus crus-galli Linnaeus—Cockspur Hawthorn (Figure 7). $2n = 24, 51, 64, 68$. Thickets, fields, woodland margins, early successional woodlands. roadsides. [*C. crus-galli* var. *exigua* (Sargent) Eggleston; *C. crus-galli* var. *pyracanthifolia* Aiton; *C. persimilis* Sargent; *C. schizophylla* Eggleston]

Crataegus emersoniana Sargent—obscure taxon known only from historic collections in Bristol County, Massachusetts.

Crataegus forbesae Sargent—obscure taxon known only from historic collections in Worcester County, Massachusetts and New London County, Connecticut.

Crataegus fulgens Sargent—obscure taxon known only from historic collections in Fairfield County, Connecticut.

Crataegus hystricina Ashe—obscure taxon known only from historic collections in Fairfield County, Connecticut and New York state.

Crataegus intricata Lange—Biltmore Hawthorn (Figure 7). 2*n* = ? Woodland openings and margins, thickets, fields, roadsides. [*C. intricata* var. *boyntonii* (Beadle) Kruschke; *C. intricata* var. *straminea* (Beadle) E.J. Palmer; *C. biltmoreana* Beadle var. *biltmoreana*; *C. biltmoreana* var. *stonei* (Sargent) Kruschke; *C. bissellii* Sargent; *C. boyntonii* Beadle; *C. foetida* Ashe; *C. modesta* Sargent; *C. stonei* Sargent]

Crataegus macrosperma Ashe—Variable Hawthorn (Figure 7). 2*n* = 68. Open woods, early successional woods, thickets, fields, woodland margins, roadsides. [*C. macrosperma* var. *acutiloba* (Sargent) Eggleston; *C. macrosperma* var. *demissa* (Sargent) Eggleston; *C. macrosperma* var. *matura* (Sargent) Eggleston; *C. macrosperma* var. *pastorum* (Sargent) Eggleston; *C. macrosperma* var. *pentandra* (Sargent) Eggleston; *C. macrosperma* var. *roanensis* (Ashe) E. J. Palmer; *C. basilica* Beadle; *C. beckwithae* Sargent; *C. brumalis* Ashe; *C. comata* Sargent; *C. compta* Sargent; *C. diffusa* Sargent; *C. edsonii* Sargent; *C. flabellata* (Bosc *ex* Spach) K. Koch var. *flabellata*; *C. flabellata* var. *grayana* (Eggleston) E.J. Palmer; *C. fluviatilis* Sargent; *C. glaucophylla* Sargent; *C. grayana* Eggleston; *C. iracunda* Beadle var. *iracunda*; *C. iracunda* var. *brumalis* (Ashe) Kruschke; *C. iracunda* var. *diffusa* (Sargent) Kruschke; *C. lemingtonensis* Sargent; *C. levis* Sargent; *C. matura* Sargent; *C. pastorum* Sargent; *C. populnea* Ashe; *C. randiana* Sargent; *C. roanensis* Ashe; *C. robbinsiana* Sargent; *C. schuettei* Ashe var. *schuettei*; *C. schuettei* Ashe var. *basilica* (Beadle) J.B. Phipps]

Crataegus mollis (Torrey & A. Gray) Scheele—Downy Hawthorn (Figure 7). 2*n* = 34, 68. Thickets, fields, woodland margins, roadsides. [*C. arnoldiana* Sargent; *C. champlainensis* Sargent; *C. pedicellata* Sargent var. *albicans* (Ashe) E.J. Palmer; *C. submollis* Sargent]

CRATAEGUS MONOGYNA Jacquin—English Hawthorn (Figure 7). 2*n* = 34, 51. Roadsides, woodland margins, open, moist woods, fields. From Eurasia, northern Africa.

Crataegus napaea Sargent—obscure taxon known only from historic collections in Litchfield County, Connecticut.

Crataegus neolondinensis Sargent—obscure taxon known only from historic collections in New London County, Connecticut.

Crataegus paddockeae Sargent—obscure taxon known only from historic collections in Caledonia and Essex Counties, Vermont.

CRATAEGUS PHAENOPYRUM (Linnaeus f.) Medikus—Washington Hawthorn (Figure 7). 2*n* = ? Thickets, roadsides. From farther south. [*C. cordata* (Miller) Aiton]

Crataegus pruinosa (H.L. Wendland) K. Koch—Frosted Hawthorn (Figure 7). 2*n* = 51, 68, 72. Thickets, fields, woodland margins, roadsides. [*C. pruinosa* var. *dissona* (Sargent) Eggleston; *C. pruinosa* var. *latisepala* (Ashe) Eggleston; *C. pruinosa* var. *porteri* (Britton) Eggleston; *C. bellula* Sargent; *C. cognata* Sargent; *C. conjuncta* Sargent; *C. deltoides* Ashe; *C. dissona* Sargent var. *dissona*; *C. dissona* var. *bellula* (Sargent) Kruschke; *C. fusca* Sargent; *C. incisa* Sargent; *C. jesupii* Sargent; *C. littoralis* Sargent; *C. pequotorum* Sargent; *C. porteri* Britton var. *caerulescens* (Sargent) E.J. Palmer; *C. rugosa* Ashe]

Crataegus punctata Jacquin—(Figure 7). 2*n* = 34, 68. Thickets, fields, woodland margins, roadsides. [*C. punctata* var. *aurea* Aiton; *C. suborbiculata* Sargent; *C. tomentosa* Linnaeus var. *punctata* (Jacquin) A. Gray]

Crataegus quinebaugensis Sargent—obscure taxon known only from historic collections in New London County, Connecticut.

Crataegus stratfordensis Sargent—obscure taxon known only from historic collections in Fairfield County, Connecticut.

Crataegus succulenta Schrader *ex* Link—Long-spined Hawthorn (Figure 8). $2n = 34, 51$. Thickets, fields, woodland margins, roadsides. [*C. succulenta* var. *macracantha* (Loddiges *ex* Loudon) Eggleston; *C. succulenta* var. *neofluvialis* (Ashe) E.J. Palmer; *C. succulenta* var. *pisifera* (Sargent) Kruschke; *C. ferentaria* Sargent; *C. fertilis* Sargent; *C. florifera* Sargent var. *shirleyensis* (Sargent) Kruschke; *C. macracantha* Loddiges *ex* Loudon var. *macracantha*; *C. macracantha* var. *occidentalis* (Britton) Eggleston; *C. pisifera* Sargent; *C. shirleyensis* Sargent]

Crataegus thayeri Sargent—obscure taxon known only from historic collections in Middlesex and Worcester Counties, Massachusetts.

Crataegus umbratilis Sargent—obscure taxon known only from historic collections at one site in Litchfield County, Connecticut, and one town in Pennsylvania.

— *Crataegus* hybrids —

Crataegus × *anomala* Sargent (*pro species*)—(Figure 8). [*C. mollis* (Torrey & A. Gray) Scheele × *C. pedicellata* Sargent]

Crataegus × *haemacarpa* Ashe (*pro species*)—(Figure 8). [*C. macrosperma* Ashe × *C. pruinosa* (H.L. Wendland) K. Koch; *C. media* Sargent]

Crataegus × *hudsonica* Sargent (*pro species*)—(Figure 8). [*C. pruinosa* (H.L. Wendland) K. Koch × *C. punctata* Jacquin; ?*C. bicknellii* (Eggleston) Eggleston; ?*C. chrysocarpa* Ashe var. *bicknellii* (Eggleston) E.J. Palmer]

Crataegus × *ideae* Sargent (*pro species*)—(Figure 8). [*C. brainerdii* Sargent × *C. chrysocarpa* Ashe]

Crataegus × *kennedyi* Sargent (*pro species*)—(Figure 8). [*C. brainerdii* Sargent × *C. pruinosa* (H.L. Wendland) K. Koch]

Crataegus × *lucorum* Sargent (*pro species*)—(Figure 8). [*C. macrosperma* Ashe × *C. pedicellata* Sargent; *C. fretalis* Sargent; *C. insolens* Sargent; *C. knieskerniana* Sargent]

Crataegus × *pilosa* Sargent (*pro species*)—(Figure 8). [*C. intricata* Lange × *C. pruinosa* (H.L. Wendland) K. Koch]

Crataegus × *spatiosa* Sargent (*pro species*)—(Figure 8). [*C. pruinosa* (H.L. Wendland) K. Koch × *C. succulenta* Schrader *ex* Link; *C. chadsfordiana* Sargent; *C. handyae* Sargent; *C. membranacea* Sargent]

Crataegus × *websteri* Sargent (*pro species*)—(Figure 9). [*C. brainerdii* Sargent × *C. calpodendron* (Ehrhart) Medikus]

CYDONIA OBLONGA Miller—Quince (Figure 9). 2*n* = 34. Roadsides, railroads. From central and western Asia.

Dasiphora fruticosa (Linnaeus) Rydberg—Shrubby Cinquefoil (Figure 9). 2*n* = 14, 28. Meadows, swamps, fields, ledges, usually in calcareous soil. [*D. fruticosa* subsp. *floribunda* (Pursh) Kartesz; *Pentaphylloides floribunda* (Pursh) Á. Löve; *Potentilla fruticosa* Linnaeus]

Drymocallis arguta (Pursh) Rydberg—Tall Cinquefoil (Figure 9). 2*n* = 14. Dry fields, open rocky woods, ledges, usually in calcareous soil. [*Potentilla arguta* Pursh]

DUCHESNEA INDICA (Andrews) Focke var. *INDICA*—Mock Strawberry (Figure 9). 2*n* = 84. Waste places, railroads. From Asia. [*POTENTILLA INDICA* (Andrews) Th. Wolf]

EXOCHORDA RACEMOSA (Lindley) Rehder—Common Pearlbush (Figure 9). 2*n* = 16, 18. Roadsides, thickets. From Asia.

FILIPENDULA RUBRA (Hill) B.L. Robinson—Queen-of-the-prairie (Figure 9). 2*n* = ? Roadsides, meadows. Probably from farther south and west.

FILIPENDULA ULMARIA (Linnaeus) Maximowicz—Queen-of-the-meadow (Figure 9). 2*n* = 14, 16, 24. Roadsides, riverbanks. From Eurasia. [*F. ULMARIA* var. *DENUDATA* (J. Presl & C. Presl) Maximowicz]

FILIPENDULA VULGARIS Moench—Dropwort (Figure 9). 2*n* = 14, 15-16. Roadsides, waste places. From Eurasia, northern Africa. [*F. HEXAPETALA* Gilibert *ex* Maximowicz – illegitimate name]

FRAGARIA VESCA Linnaeus subsp. *VESCA*—European Strawberry (Figure 10). 2*n* = 14. Rocky woods, woodland margins, openings. From Eurasia.

Fragaria vesca Linnaeus subsp. *americana* (Porter) Staudt—Woodland Strawberry (Figure 10). 2*n* = 14. Wooded slopes, rocky banks, openings, roadsides.

Fragaria virginiana Miller subsp. *virginiana*—Wild Strawberry (Figure 10). 2*n* = 56. Fields, woodland borders, open slopes, roadsides, railroads.

Fragaria virginiana Miller subsp. *glauca* (S. Watson) Staudt—(Figure 10). 2*n* = 56. Fields, woodland borders, open slopes, roadsides, railroads. [*F. virginiana* var. *terra-novae* (Rydberg) Fernald & Wiegand]

FRAGARIA VIRGINIANA Miller subsp. *GRAYANA* (E. Vilmorin *ex* J. Gay) Staudt—(Figure 10). 2*n* = 56. Roadsides. From farther west. [*F. VIRGINIANA* var. *ILLINOENSIS* A. Gray]

— *Fragaria* hybrid —

FRAGARIA × *ANANASSA* (Weston) Duchesne *ex* Grozier (*pro species*)—Garden Strawberry (Figure 10). [*F. CHILOENSIS* (Linnaeus) Miller × *F. virginiana* Miller]

Geum aleppicum Jacquin—Yellow Avens (Figure 10). 2*n* = 42. Thickets, woods, meadows, clearings. [*G. aleppicum* var. *strictum* (Aiton) Fernald]

Geum canadense Jacquin—White Avens (Figure 10). 2*n* = 42. Rich thickets, open woods, woodland margins, fields, roadsides. [*G. canadense* var. *camporum* (Rydberg) Fernald & Weatherby]

Geum laciniatum Murray—Rough Avens (Figure 10). 2*n* = 42. Moist thickets, meadows, roadsides. [*G. laciniatum* var. *trichocarpum* Fernald]

Geum macrophyllum Willdenow var. *macrophyllum*—(Figure 11). 2*n* = 42. Wet woods, thickets, fields, roadsides.

Geum peckii Pursh—Mountain Avens (Figure 11). 2*n* = 42. Wet ledges, alpine meadows.

Geum rivale Linnaeus—Purple Avens (Figure 11). 2*n* = 42. Swamps, wet meadows, bogs, wet woods, low fields, wet ditches.

GEUM URBANUM Linnaeus—Wood Avens (Figure 11). 2n = 21, 42. Fields, roadsides. From Eurasia, northern Africa.

GEUM VERNUM (Rafinesque) Torrey & A. Gray—Spring Avens (Figure 11). 2*n* = 42. Rich woods. From farther west.

Geum virginianum Linnaeus—Cream Avens (Figure 11). 2*n* = 42. Open, rich woods, thickets, rocky banks. [*G. flavum* (Porter) E.P. Bicknell]

—*Geum* hybrid—

Geum × *pulchrum* Fernald (*pro species*)—(Figure 11). [*G. macrophyllum* Willdenow var. *macrophyllum* × *G. rivale* Linnaeus]

GILLENIA TRIFOLIATA (Linnaeus) Moench—Bowman's-root (Figure 11). 2*n* = 18. Dry woods. From farther west and south. [*PORTERANTHUS TRIFOLIATUS* (Linnaeus) Britton]

KERRIA JAPONICA (Linnaeus) de Candolle—Japanese Rose (Figure 11). 2*n* = 18. Roadsides. From eastern Asia.

MALUS BACCATA (Linnaeus) Borkhausen—Siberian Crabapple (Figure 12). 2*n* = 34. Roadsides, woodland margins, thickets, clearings, sandy, waste areas. From eastern and southern Asia. [*PYRUS BACCATA* Linnaeus]

MALUS FLORIBUNDA Siebold *ex* Van Houtte—Japanese Flowering Crabapple (Figure 12). 2n = 34. Fields, woodland margins. From Asia.

MALUS PRUNIFOLIA (Willdenow) Borkhausen—Chinese Apple (Figure 12). 2*n* = 34, 51. Waste places, roadsides, thickets, wooded terraces. From China. [*PYRUS PRUNIFOLIA* Willdenow]

MALUS PUMILA Miller—Common Apple (Figure 12). 2*n* = 24, 34, 51, 68. Open woods, thickets, fields, roadsides, woodland margins, clearings. From Eurasia. [*M. DOMESTICA* – misapplied; *M. SYLVESTRIS* Miller; *PYRUS MALUS* Linnaeus]

MALUS SIEBOLDII (Regel) Rehder—Toringo Crabapple (Figure 12). $2n = 51$. Rich woods, railroads, thickets, swampy woodland margins, open, rocky knolls. From eastern Asia. [*M. SARGENTII* Rehder; *M. TORINGO* (K. Koch) Carrière; *PYRUS SIEBOLDII* Regel]

—*Malus* hybrids—

MALUS × *ADSTRINGENS* Zabel—(Figure 12). [*M. BACCATA* (Linnaeus) Borkhausen × *M. PUMILA* Miller]

MALUS × *ARNOLDIANA* (Rehder) Sargent *ex* Rehder—(Figure 12). [*M. BACCATA* (Linnaeus) Borkhausen × *M. FLORIBUNDA* Siebold *ex* Van Houtte; *PYRUS ARNOLDIANA* (Rehder) Bean]

MALUS × *MAGDEBURGENSIS* Hartwig—(Figure 12). [*M. PUMILA* Miller × *M. SPECTABILIS* (Aiton) Borkhausen]

MALUS × *MICROMALUS* Makino (*pro species*)—(Figure 12). [? *M. BACCATA* (Linnaeus) Borkhausen × *M. SPECTABILIS* (Aiton) Borkhausen]

MALUS × *SOULARDII* (L.H. Bailey) Britton (*pro species*)—(Figure 13). [? *M. IOENSIS* (Alph. Wood) Britton × *M. PUMILA* Miller; *PYRUS* × *SOULARDII* L.H. Bailey]

PHOTINIA VILLOSA (Thunberg) de Candolle—Oriental Photinia (Figure 13). $2n = 68$. Swamps. From eastern Asia.

PHYSOCARPUS OPULIFOLIUS (Linnaeus) Maximowicz—Eastern Ninebark (Figure 13). $2n = 18$. Rocky banks, shores, thickets, fields, roadsides, waste places. From farther west and south.

POTENTILLA ANGLICA Laicharding—Trailing Tormentil (Figure 13). $2n = 28, 56$. Fields. From Europe.

Potentilla anserina Linnaeus subsp. *anserina*—Common Silverweed (Figure 13). $2n = 28, 35, 42$. Shores. [*P. egedei* Wormskjöld ex Hornemann var. *groenlandica* (Trattinnick) Polunin [in part]]

Potentilla anserina Linnaeus subsp. *pacifica* (Howell) Rousi—Coastal Silverweed (Figure 13). $2n = 28$. Salt marshes, coastal seashores. [*P. egedei* Wormskjöld *ex* Hornemann var. *groenlandica* (Trattinnick) Polunin [in part]; *P. pacifica* Howell]

POTENTILLA ARGENTEA Linnaeus—Silvery Cinquefoil (Figure 13). $2n = 14, 28, 42, 56$. Dry fields, roadsides, dry, open ground. From Eurasia. [*P. ARGENTEA* var. *PSEUDOCALABRA* Th. Wolf]

Potentilla canadensis Linnaeus—Dwarf Cinquefoil (Figure 13). $2n = 28$. Dry, sandy fields, roadsides, dry, open ground, often in acidic soil. [*P. canadensis* var. *villosissima* Fernald]

POTENTILLA GRACILIS Douglas *ex* Hooker var. *GRACILIS*—(Figure 13). $2n = 84$. Dry meadows. From farther west.

POTENTILLA INCLINATA Villars—Grey Cinquefoil (Figure 14). 2*n* = 14, 28, 35, 42, 84. Dry fields, roadsides, waste places. From Eurasia. [*P. CANESCENS* Besser]

POTENTILLA INTERMEDIA Linnaeus—Downy Cinquefoil (Figure 14). 2*n* = 28, 42, 56. Dry fields, roadsides, waste places. From farther Eurasia.

Potentilla litoralis Rydberg—(Figure 14). 2*n* = 28, 56. Dry fields, rocky outcrops, rocky shores, near coast. [*P. pectinata* Rafinesque – illegitimate name; *P. pensylvanica* Linnaeus var. *litoralis* (Rydberg) B. Boivin; *P. pensylvanica* var. *pectinata* Lepage]

Potentilla norvegica Linnaeus—Rough Cinquefoil (Figure 14). 2*n* = 42, 56, 63, 70. Fields, thickets, roadsides, waste places. [*P. norvegica* var. *labradorica* (Lehmann) Fernald]

POTENTILLA PULCHERRIMA Lehmann—(Figure 14). 2*n* = 42, ca. 70, 71, ca. 108. Meadows. From farther west. [*P. GRACILIS* Douglas ex Hooker var. *PULCHERRIMA* (Lehmann) Fernald]

POTENTILLA RECTA Linnaeus—Sulphur Cinquefoil (Figure 14). 2*n* = 14, 28, 42, 35, 56. Dry fields, roadsides, waste places. From Eurasia, northern Africa.

POTENTILLA REPTANS Linnaeus—Creeping Cinquefoil (Figure 14). 2*n* = 28. Waste places. From Eurasia, northern Africa.

POTENTILLA RIVALIS Nuttall—(Figure 14). 2*n* = 14, 70. Waste places. From farther west.

Potentilla robbinsiana (Lehmann) Oakes *ex* Rydberg—(Figure 14). 2*n* = 49. Alpine rocky slopes and flats.

Potentilla simplex Michaux—Old-field Cinquefoil (Figure 15). 2*n* = ? Fields, open woods, thickets, roadsides. [*P. simplex* var. *calvescens* Fernald]

POTENTILLA THURINGIACA Bernhardi *ex* Link—(Figure 15). 2*n* = 42, 56. Waste places, roadsides. From Eurasia.

POTENTILLA VERNA Linnaeus—(Figure 15). 2*n* = 28, 35, 42, 49, 56, 63, 70, 80. Grassy roadsides and banks. From Europe. [*P. TABERNAEMONTANI* Ascherson]

POTERIDIUM ANNUUM (Nuttall) Spach—Western Burnet (Figure 15). 2*n* = 14. Disturbed soil. From farther west. [*SANGUISORBA ANNUA* (Nuttall) Nuttall]

Prunus americana Marshall—Wild Plum (Figure 15). 2*n* = 16. Fields, Roadsides, thickets, woodland margins. [*P. americana* var. *lanata* Sudworth; *P. americana* var. *mollis* (Torrey) Torrey & A. Gray]

PRUNUS AVIUM (Linnaeus) Linnaeus—Sweet Cherry (Figure 15). 2*n* = 16. Roadsides, woods, woodland margins, thickets. From Eurasia.

PRUNUS CERASIFERA Ehrhart—Cherry Plum (Figure 15). 2*n* = 16, 24. Roadsides, riverbanks, shores. From Eurasia.

PRUNUS CERASUS Linnaeus—Sour Cherry (Figure 15). 2*n* = 32. Roadsides, thickets, woodland margins. From Eurasia.

PRUNUS DOMESTICA Linnaeus—Garden Plum (Figure 15). 2*n* = 16, 32, 48. Roadsides, thickets. Probably from Eurasia.

PRUNUS HORTULANA L.H. Bailey—Wild Goose Plum (Figure 16). 2*n* = 16. Woodland margins. From farther west.

PRUNUS INSITITIA Linnaeus—Bullace Plum (Figure 16). 2*n* = 16. Thickets, woodland margins, roadsides, fields. From Europe. [*P. DOMESTICA* Linnaeus subsp. *INSITITIA* (Linnaeus) C.K. Schneider]

PRUNUS MAHALEB Linnaeus—Perfumed Cherry (Figure 16). 2*n* = 16. Railroads, roadsides, woodland borders, fields. From Eurasia, northern Africa.

Prunus maritima Marshall—Beach Plum (Figure 16). 2*n* = 16. Roadsides, dunes, sandy fields, other sandy sites, near seacoast. [*P. maritima* var. *gravesii* (Small) G.J. Anderson; *P. gravesii* Small]

Prunus nigra Aiton—Canada Plum (Figure 16). 2*n* = 16. Roadsides, thickets, waste places, woodland margins, stream banks.

Prunus pensylvanica Linnaeus f.—Pin Cherry (Figure 16). 2*n* = 16. Dry, open sandy soil, recent burns, dry, open woods and clearings.

PRUNUS PERSICA (Linnaeus) Batsch—Peach (Figure 16). 2*n* = 16. Roadsides, thickets. From China.

Prunus pumila Linnaeus var. *depressa* (Pursh) Bean—Dwarf Sand Cherry (Figure 16). 2*n* = 16. Sandy, gravelly or rocky river shores, beaches. [*P. depressa* Pursh]

Prunus pumila Linnaeus var. *susquehanae* (Willdenow) H. Jaeger—Appalachian Sand Cherry (Figure 16). 2*n* = 16. Sandy barrens, beaches, clearings, roadsides and fields, dry woods and ledges. [*P. pumila* var. *cuneata* (Rafinesque) L.H. Bailey; *P. susquehanae* Willdenow]

Prunus serotina Ehrhart var. *serotina*—Black Cherry (Figure 17). 2*n* = 32. Thickets, roadsides, wood margins, dry woods, waste places.

PRUNUS SERRULATA Lindley—Japanese Flowering Cherry (Figure 17). 2*n* = 16. Mixed woods, roadsides. From Eurasia.

PRUNUS SPINOSA Linnaeus—Blackthorn (Figure 17). 2*n* = 32, 40, 48. Fields, pond shores. From Eurasia.

Prunus umbellata Elliott—Sloe Plum (Figure 17). 2*n* = ? Roadsides, sandy bottoms, river terraces, fields, rocky copses. [*P. alleghaniensis* Porter]

Prunus virginiana Linnaeus var. *virginiana*—Choke Cherry (Figure 17). 2*n* = 16, 26, 32. Thickets, roadsides, woodland margins.

—*Prunus* hybrid—

Prunus serotina Ehrhart var. *serotina* × *P. virginiana* Linnaeus var. *virginiana*—(Figure 17).

PYRUS CALLERYANA Decaisne—Callery Pear (Figure 17). 2*n* = 34. Shrubby thickets, ditches. From eastern Asia.

PYRUS COMMUNIS Linnaeus—Common Pear (Figure 17). 2*n* = 34. Roadsides, fields, thickets, woodland margins. Probably from Eurasia.

RHODOTYPOS SCANDENS (Thunberg) Makino—Jetbead (Figure 17). 2*n* = 18. Waste places, dry, oak-hickory woods, roadsides. From eastern Asia.

Rosa acicularis Lindley subsp. *sayi* (Schweinitz) W.H. Lewis—(Figure 18). 2*n* = 42, 49, 56. Railroads, shores, thickets, rocky slopes. [*R. acicularis* var. *bourgeauiana* Crépin]

ROSA ARKANSANA Porter—Prairie Rose (Figure 18). 2*n* = 28. Railroads. From farther west.

Rosa blanda Aiton—Smooth Rose (Figure 18). 2*n* = 14. Shores, riverbanks, meadows, thickets, railroads. [*R. blanda* var. *glabra* Crépin; *R. johannensis* Fernald]

ROSA CANINA Linnaeus—Dog Rose (Figure 18). 2*n* = 28, 35. Roadsides, thickets, fields, dry banks.

Rosa carolina Linnaeus subsp. *carolina*—Pasture Rose (Figure 18). 2*n* = 28. Dry pastures, thickets, thin woods, roadsides, other dry, sandy, rocky or open habitats. [*R. carolina* var. *grandiflora* (Baker) Rehder; *R. carolina* var. *villosa* (Best) Rehder; *R. humilis* Marshall]

ROSA CINNAMOMEA Linnaeus—Cinnamon Rose (Figure 18). 2*n* = 14. Roadsides, fields, fencerows, clearings. From Eurasia. [*R. MAJALIS* Herrmann]

ROSA GALLICA Linnaeus—French Rose (Figure 18). 2*n* = 28. Roadside thickets, waste places. From Eurasia.

ROSA GLAUCA Pourret—(Figure 18). 2*n* = 28. Roadsides, thickets. From Europe. [*R. FERRUGINEA* Villars; *R. RUBRIFOLIA* Villars]

ROSA LUCIAE Franchet & Rochebrune *ex* Crépin—Memorial Rose (Figure 18). 2*n* = 14. Thickets, woodland margins. From eastern Asia. [*R. WICHURAIANA* Crépin]

ROSA MOLLIS Smith—(Figure 19). 2*n* = 28. Roadsides. From Eurasia.

ROSA MULTIFLORA Thunberg—(Figure 19). 2*n* = 14, 21. Roadsides, woodland margins, clearings, thickets, waste places. From eastern Asia.

Rosa nitida Willdenow—Northeastern Rose (Figure 19). 2*n* = 14. Swamps, bogs, pond shores, wet thickets, in acid soil.

Rosa palustris Marshall—Swamp Rose (Figure 19). 2*n* = 14. Swamps, meadows, pastures, wet thickets, shores.

ROSA RUBIGINOSA Linnaeus var. *RUBIGINOSA*—Sweetbrier (Figure 19). 2*n* = 35. Roadsides, fields, thickets, clearings. From Eurasia. [*R. EGLANTERIA* Linnaeus – ambiguous name; *R. MICRANTHA* Borrer *ex* Smith]

ROSA RUGOSA Thunberg—Beach Rose (Figure 19). 2*n* = 14, 28. Sandy, open soil, often near salt water, roadsides, dunes. From eastern Asia.

ROSA SETIGERA Michaux—Climbing Rose (Figure 19). 2*n* = 14. Roadsides, fields, woods, hillsides. From farther west and south. [*R. SETIGERA* var. *TOMENTOSA* Torrey & A. Gray]

ROSA SHERARDII Davies—(Figure 19). 2*n* = 28, 35, 42. Roadsides, pastures. From Europe.

ROSA SPINOSISSIMA Linnaeus—Burnet Rose (Figure 19). 2*n* = 28. Roadsides, thickets, fields. From Eurasia. [*R. PIMPINELLIFOLIA* Linnaeus]

Rosa virginiana Miller—(Figure 20). 2*n* = 28. Thickets, meadows, swamps, shores, clearings, roadsides. [*R. virginiana* var. *lamprophylla* Rehder; *R. lucida* Ehrhart]

—*Rosa* hybrids—

Rosa carolina Linnaeus subsp. *carolina* × *R. palustris* Marshall—(Figure 20).

Rosa carolina Linnaeus subsp. *carolina* × *R. RUBIGINOSA* Linnaeus var. *RUBIGINOSA*—(Figure 20).

ROSA × *CENTIFOLIA* Linnaeus (*pro species*)—(Figure 20). [*R. GALLICA* Linnaeus × ?]

ROSA × *FRANCOFURTANA* Münchhausen (*pro species*)—(Figure 20). [*R. CINNAMOMEA* Linnaeus × *R. GALLICA* Linnaeus]

Rosa nitida Willdenow × *R. palustris* Marshall—(Figure 20).

Rosa nitida Willdenow × *R. virginiana* Miller—(Figure 20).

Rosa × *novae-angliae* W.H. Lewis—(Figure 20). [*R. carolina* Linnaeus subsp. *carolina* × *R. virginiana* Miller]

Rosa palustris Marshall × *R. virginiana* Miller—(Figure 20).

Rubus taxonomy

Due to the significant diversity of taxonomic treatments for this genus over the years, particularly for the large subgenus *Eubatus*, and the complicated reproductive mechanisms known to occur (hybridization, polyploidy, apomixis), the listing here largely follows the intensive New England study for subgenus *Eubatus* of Hodgdon and Steele (1966, 1970) . The work of H. Davis, A. Fuller and T. Davis (1967, 1968a, 1968b, 1969a, 1969b, 1970, 1982), H. Davis (1990), Gleason and Cronquist (1991), and an unpublished 2009 draft by L.A. Alice, D.H. Goldman, G. Moore and J.A. Macklin for the Flora of North America have been used to help place some names in synonymy.

Rubus allegheniensis Porter—Common Highbush Blackberry (Figure 21). 2*n* = 14, 21, 28. Roadsides, fields, clearings, woodland margins, thickets. [*R. allegheniensis* var. *gravesii* (Fernald) Fernald; *R. allegheniensis* var. *plausus* L.H. Bailey; *R. allegheniensis* var. *populifolius* Fernald; *R. fernaldianus* L.H. Bailey; ?*R. floricomus* Blanchard; *R. pugnax* L.H. Bailey; *R. saltuensis* L.H. Bailey]

Rubus amicalis Blanchard—(Figure 21). 2*n* = ? Fields, thickets, waste places, woods, bases of ledges, moist, sphagnous soil. [*R. amabilis* Blanchard not Focke – illegitimate name; *R. elegantulus* Blanchard not Forster – illegitimate name]

Rubus arenicola Blanchard—Sand Dewberry (Figure 21). 2*n* = ? Dry fields, roadsides, open plains, ledges, especially in dry, open, sandy soil. [*R. brainerdii* Rydberg; *R. curtipes* L.H. Bailey; ?*R. fraternalis* L.H. Bailey; *R. janssonii* L.H. Bailey; *R. obsessus* L.H. Bailey; *R. pauper* L.H. Bailey; *R. perpauper* L.H. Bailey; *R. prosper* L.H. Bailey]

Rubus argutus Link—Southern Blackberry (Figure 21). 2*n* = 14, 21. Thickets, woodland and bog margins. [*R. blakei* L.H. Bailey; *R. jugosus* L.H. Bailey; *R. paludivagus* Fernald]

RUBUS BIFRONS Vest—Armenian Blackberry (Figure 21). 2*n* = 28. Roadsides, waste places. From Eurasia. [*R. ARMENIACUS* Focke; *R. DISCOLOR* – misapplied]

Rubus canadensis Linnaeus—Smooth Blackberry (Figure 21). 2*n* = 14, 21. Moist thickets, clearings in northern hardwood forests, woodland margins, cliff bases.

Rubus chamaemorus Linnaeus—Cloudberry (Figure 21). 2*n* = 56. *Sphagnum* bogs, heaths, often at high elevation.

Rubus cuneifolius Pursh—Sand Blackberry (Figure 21). 2*n* = 14, 21, 28. Sandy or rocky, dry open soil on coastal plain. [*R. cuneifolius* var. *spiniceps* L.H. Bailey]

Rubus enslenii Trattinnick—(Figure 21). 2*n* = ? Dry, open, mostly oak-hickory woods, ledges, thickets. [*R. baileyanus* Britton]

Rubus flagellaris Willdenow—Common Dewberry (Figure 22). 2*n* = 28, 56, 63. Dry fields, sandy areas, openings, ledges, thicket borders, roadsides. [?*R. eflagellaris* L.H. Bailey; *R. felix* L.H. Bailey; ?*R. ithacanus* L.H. Bailey; *R. maniseesensis* L.H. Bailey; ?*R. particeps* L.H. Bailey; *R. villosus* – misapplied]

Rubus frondosus Bigelow—Yankee Blackberry (Figure 22). 2*n* = 14, 21, 42. Thickets, fields, roadsides, woodland borders. [*R. bellobatus* L.H. Bailey; *R. insulanus* L.H. Bailey; *R. multispinus* Blanchard; *R. recurvans* Blanchard; *R. rossbergianus* Blanchard]

Rubus hispidus Linnaeus—Swamp Dewberry (Figure 22). 2*n* = 14, 21, 28, 35, 56. Fields, open woods (specially pine), gravel pits, ditches, swamps, sphagnous soil, *Sphagnum* bogs, meadows. [*R. hispidus* var. *obovalis* (Michaux) Fernald; *R. cubitans* Blanchard; ?*R. novanglicus* L.H. Bailey; *R. pervarius* (L.H. Bailey) L.H. Bailey; *R. spiculosus* Fernald]

RUBUS IDAEUS Linnaeus subsp. *IDAEUS*—European Red Raspberry (Figure 22). 2*n* = 14, 21, 28, 42. Roadsides, fields, thickets. From Eurasia.

Rubus idaeus Linnaeus subsp. *strigosus* (Michaux) Focke—Wild Red Raspberry (Figure 22). 2*n* = 14, 21, 28. Clearings, fields, roadsides, dry, open woods, damp thickets, woodland borders. [*R. idaeus* var. *canadensis* Richardson *ex* Fernald; *R. idaeus* var. *egglestonii* (Blanchard) Fernald; *R. idaeus* var. *heterolasius* Fernald]

RUBUS ILLECEBROSUS Focke—Strawberry Raspberry (Figure 22). 2*n* = 14. Woods, disturbed sites. From Japan.

Rubus jaysmithii L.H. Bailey—(Figure 22). 2*n* = ? Dry fields, sandy areas, openings, ledges, thicket borders, roadsides. [*R. multifer* L.H. Bailey; *R. scambens* L.H. Bailey; *R. tetricus* L.H. Bailey]

RUBUS LACINIATUS Willdenow—Cut-leaved Blackberry (Figure 22). 2*n* = 28. Roadsides, sandy soil near beaches, railroads, fields, waste places. Probably from Europe.

Rubus occidentalis Linnaeus—Black Raspberry (Figure 22). 2*n* = 14. Clearings, thickets, woodland borders, fields.

Rubus odoratus Linnaeus—Purple-flowering Raspberry (Figure 23). 2*n* = 14. Woodland borders, open woods, thickets, roadsides, rocky slopes.

RUBUS PARVIFOLIUS Linnaeus—Japanese Raspberry (Figure 23). 2*n* = 14. Waste places. From eastern Asia, Australia. [*R. TRIPHYLLUS* Thunberg]

Rubus pensilvanicus Poiret—(Figure 23). 2*n* = 28. Thickets, roadsides, swamps, woods, woodland borders, clearings. [*R. amnicola* Blanchard; *R. andrewsianus* Blanchard; *R. avipes* L.H. Bailey; *R. barbarus* L.H. Bailey; *R. conanicutensis* L.H. Bailey; *R. facetus* L.H. Bailey; ?*R. gnarus* L.H. Bailey; *R. insons* L.H. Bailey; ?*R. latens* L.H. Bailey; *R. orarius* Blanchard; *R. ostryifolius* Rydberg not Gandoger – illegitimate name; *R. pergratus* Blanchard; *R. philadelphicus* Blanchard]

RUBUS PHOENICOLASIUS Maximowicz—Wineberry (Figure 23). 2*n* = 14. Roadsides, thickets, open woods, disturbed, open areas. From eastern Asia.

Rubus pubescens Rafinesque—Dwarf Raspberry (Figure 23). 2*n* = 14. Damp woods and slopes, swamps, low thickets, rocky shores, sandy banks. [*R. pubescens* var. *pilosifolius* A.F. Hill]

Rubus recurvicaulis Blanchard—Arching Dewberry (Figure 23). 2*n* = 14, 35, 42. Fields, railroads, roadsides, other dry or gravelly, open soil. [*R. aptatus* L.H. Bailey; *R. arundelanus* Blanchard var. *arundelanus*; *R. arundelanus* var. *jeckylanus* (Blanchard) L.H. Bailey; *R. plicatifolius* Blanchard; *R. positivus* L.H. Bailey; *R. usus* L.H. Bailey]

Rubus repens (Linnaeus) Kuntze— Dewdrop (Figure 23). 2*n* = 14. Rich, moist woods, swamps. [*R. dalibarda* Linnaeus – illegitimate name; *Dalibarda repens* Linnaeus]

RUBUS RORIBACCUS (L.H. Bailey) Rydberg—Lucretia Dewberry (Figure 23). 2*n* = 49. Dry woods. From farther west.

Rubus semisetosus Blanchard—Swamp Blackberry (Figure 23). $2n$ = ? Swales, swampy thickets, dryish meadows. [*R. ascendens* Blanchard; *R. bigelovianus* L.H. Bailey; *R. hispidoides* L.H. Bailey; *R. ortivus* (L.H. Bailey) L.H. Bailey; *R. perinvisus* L.H. Bailey]

Rubus setosus Bigelow—Bristly Blackberry (Figure 24). $2n$ = 14, 21. Alluvial plains, grassy swamps, swales, damp thickets, waste places. [*R. dissimilis* L.H. Bailey; *R. groutianus* Blanchard; *R. lawrencei* L.H. Bailey; *R. notatus* L.H. Bailey]

Rubus vermontanus Blanchard—(Figure 24). $2n$ = ? Clearings, sterile fields, thickets, cliff bases. [*R. abbrevians* Blanchard; *R. junceus* Blanchard; *R. miscix* L.H. Bailey; *R. navus* L.H. Bailey; *R. regionalis* (L.H. Bailey) L.H. Bailey; *R. tardatus* Blanchard]

—*Rubus* hybrids—

Rubus allegheniensis Porter × *R. amicalis* Blanchard—(Figure 24).

Rubus allegheniensis Porter × *R. canadensis* Linnaeus—(Figure 24).

Rubus allegheniensis Porter × *R. flagellaris* Willdenow—(Figure 24).

Rubus allegheniensis Porter × *R. frondosus* Bigelow—(Figure 24).

Rubus allegheniensis Porter × *R. hispidus* Linnaeus—(Figure 24). [*R. biformispinus* Blanchard; *R. invisus* (L.H. Bailey) Britton; *R. jactus* L.H. Bailey; *R. laevior* (L.H. Bailey) Fernald; *R. permixtus* Blanchard; *R. sanfordii* L.H. Bailey]

Rubus allegheniensis Porter × *R. pensilvanicus* Poiret—(Figure 24). [*R. alumnus* L.H. Bailey; *R. paulus* L.H. Bailey; *R. rosa* L.H. Bailey]

Rubus allegheniensis Porter × *R. recurvicaulis* Blanchard—(Figure 24).

Rubus allegheniensis Porter × *R. setosus* Bigelow—(Figure 25). [*R. aculiferus* Fernald; *R. frondisentis* Blanchard; *R. glandicaulis* Blanchard; *R. montpelierensis* Blanchard *ex* L.H. Bailey; *R. sceleratus* Brainerd *ex* Fernald]

Rubus allegheniensis Porter × *R. vermontanus* Blanchard—(Figure 25). [*R. flavinanus* Blanchard; *R. ravus* L.H. Bailey]

Rubus amicalis Blanchard × *R. frondosus* Bigelow—(Figure 25).

Rubus amicalis Blanchard × *R. jaysmithii* L.H. Bailey—(Figure 25).

Rubus amicalis Blanchard × *R. recurvicaulis* Blanchard—(Figure 25).

Rubus amicalis Blanchard × *R. setosus* Bigelow—(Figure 25).

Rubus amicalis Blanchard × *R. vermontanus* Blanchard—(Figure 25). [*R. multilicius* L.H. Bailey]

Rubus canadensis Linnaeus × *R. amicalis* Blanchard—(Figure 25).

Rubus canadensis Linnaeus × *R. frondosus* Bigelow—(Figure 25).

Rubus canadensis Linnaeus × *R. pensilvanicus* Poiret—(Figure 26).

Rubus canadensis Linnaeus × *R. setosus* Bigelow—(Figure 26).

Rubus canadensis Linnaeus × *R. vermontanus* Blanchard—(Figure 26).

Rubus enslenii Trattinnick × *R. frondosus* Bigelow—(Figure 26).

Rubus enslenii Trattinnick × *R. pensilvanicus* Poiret—(Figure 26).

Rubus enslenii Trattinnick × *R. recurvicaulis* Blanchard—(Figure 26).

Rubus flagellaris Willdenow × *R. frondosus* Bigelow—(Figure 26).

Rubus flagellaris Willdenow × *R. hispidus* Linnaeus—(Figure 26). [*R. mainensis* L.H. Bailey]

Rubus flagellaris Willdenow × *R. recurvicaulis* Blanchard—(Figure 26).

Rubus frondosus Bigelow × *R. hispidus* Linnaeus—(Figure 27).

Rubus frondosus Bigelow × *R. jaysmithii* L.H. Bailey—(Figure 27).

Rubus frondosus Bigelow × *R. recurvicaulis* Blanchard—(Figure 27).

Rubus frondosus Bigelow × *R. semisetosus* Blanchard—(Figure 27).

Rubus frondosus Bigelow × *R. setosus* Bigelow—(Figure 27).

Rubus frondosus Bigelow × *R. vermontanus* Blanchard—(Figure 27).

Rubus hispidus Linnaeus × *R. jaysmithii* L.H. Bailey—(Figure 27).

Rubus hispidus Linnaeus × *R. recurvicaulis* Blanchard—(Figure 27).

Rubus hispidus Linnaeus × *R. semisetosus* Blanchard—(Figure 27).

Rubus hispidus Linnaeus × *R. setosus* Bigelow—(Figure 28). [*R. adjacens* Fernald; *R. alter* L.H. Bailey; *R. blanchardianus* (L.H. Bailey) L.H. Bailey; *R. harmonicus* L.H. Bailey; *R. jacens* Blanchard; *R. pudens* L.H. Bailey; *R. segnis* L.H. Bailey; *R. tholiformis* Fernald; *R. trifrons* Blanchard; *R. vigoratus* L.H. Bailey]

Rubus hispidus Linnaeus × *R. setosus* Bigelow × *R. vermontanus* Blanchard—(Figure 28).

Rubus hispidus Linnaeus × *R. vermontanus* Blanchard—(Figure 28).

Rubus × *neglectus* Peck (*pro species*)—(Figure 28). [*R. idaeus* Linnaeus subsp. *strigosus* (Michaux) Focke × *R. occidentalis* Linnaeus]

Rubus pensilvanicus Poiret × *R. recurvicaulis* Blanchard—(Figure 28).

Rubus recurvicaulis Blanchard × *R. setosus* Bigelow—(Figure 28). [*R. arcuans* Fernald & H. St. John; *R. bicknellii* L.H. Bailey; *R. multiformis* Blanchard; *R. provincialis* L.H. Bailey]

Rubus recurvicaulis Blanchard × *R. vermontanus* Blanchard—(Figure 28). [*R. severus* Brainerd *ex* Fernald]

Rubus semisetosus Blanchard × *R. setosus* Bigelow—(Figure 28).

Rubus setosus Bigelow × *R. vermontanus* Blanchard—(Figure 28). [?*R. gulosus* L.H. Bailey; *R. parlinii* L.H. Bailey; *R. univocus* L.H. Bailey]

Sanguisorba canadensis Linnaeus—American Burnet (Figure 29). $2n = 28$. Meadows, swamps, low ground, sphagnous soils.

SANGUISORBA MINOR Scopoli subsp. *MURICATA* (Spach ex Bonnier & Layens) Briquet—Fodder Burnet (Figure 29). $2n = 28, 56$. Old fields, roadsides, quarry ledges, waste places. From Eurasia, northern Africa. [*S. MINOR* Scopoli subsp. *BALEARICA* (Bourgeau ex Nyman) Muñoz Garmendia & C. Navarro]

SANGUISORBA OFFICINALIS Linnaeus—Great Burnet (Figure 29). $2n = 28, 42, 56$. Roadsides, fields, thickets. From Eurasia, northwestern North America.

Sibbaldia procumbens Linnaeus—(Figure 29). $2n = 14$. Headwalls of alpine ravines.

Sibbaldiopsis tridentata (Aiton) Rydberg—Three-toothed Cinquefoil (Figure 29). $2n = 28$. Dry, open, rocky, gravelly or sandy, sterile soil, clefts in ledges, often at high altitudes. [*Potentilla tridentata* Aiton]

SORBARIA SORBIFOLIA (Linnaeus) A. Braun—False Spiraea (Figure 29). $2n = 36$. Roadsides, waste places. From eastern Asia.

—*Sorbaronia* hybrids—

× *SORBARONIA FALLAX* (C.K. Schneider) C.K. Schneider—(Figure 29). [*Aronia melanocarpa* (Michaux) Elliott × *SORBUS AUCUPARIA* Linnaeus; *PYRUS* × *FALLAX* (C.K. Schneider) Fernald]

× *SORBARONIA HYBRIDA* (Moench) C.K. Schneider—(Figure 29). [*Aronia arbutifolia* (Linnaeus) Persoon × *SORBUS AUCUPARIA* Linnaeus; *ARONIA HYBRIDA* (Moench) Zabel; *PYRUS HYBRIDA* Moench; *SORBUS* × *HYBRIDA* (Moench) C.K. Schneider not Linnaeus – illegitimate name]

× *Sorbaronia jackii* Rehder—(Figure 29). [*Aronia* × *prunifolia* (Marshall) Rehder × *Sorbus americana* Marshall; *Pyrus* × *jackii* (Rehder) Fernald]

× *Sorbaronia monstrosa* (Zabel) C.K. Schneider—(Figure 30). [*Aronia* × *arbutifolia* (Linnaeus) Persoon × *Sorbus americana* Marshall]

× *Sorbaronia sorbifolia* (Poiret) C.K. Schneider—(Figure 30). [*Aronia melanocarpa* (Michaux) Elliott × *Sorbus americana* Marshall; *Aronia sargentii* (Dippel) Zabel; *Pyrus* × *mixta* Fernald; *Sorbus* × *sargentii* Dippel; *Sorbus* × *sorbifolia* (Poiret) Hedlund]

Sorbus americana Marshall—American Mountain-ash (Figure 30). $2n = 34$. Cool, moist woods, mountain slopes. [*Pyrus americana* (Marshall) Sprengel]

SORBUS AUCUPARIA Linnaeus—European Mountain-ash (Figure 30). $2n = 34$. Woods, fields, roadsides, woodland borders, thickets. From Eurasia. [*PYRUS AUCUPARIA* (Linnaeus) Gaertner]

Sorbus decora (Sargent) C.K. Schneider—Northern Mountain-ash (Figure 30). $2n = 34$. Wet woods, high mountain slopes, freshwater shores. [*S. decora* var. *groenlandica* (C.K. Schneider) G.N. Jones; *Pyrus decora* (Sargent) Hyland; *P. decora* var. *groenlandica* (C.K. Schneider) Fernald]

SORBUS INTERMEDIA (Ehrhart) Persoon—Swedish Whitebeam (Figure 30). $2n = 68$. Roadsides. From Europe. [*PYRUS INTERMEDIA* Ehrhart]

Spiraea alba Du Roi—Hairy Meadowsweet (Figure 30). $2n = 36$. Swamps, low, moist, open ground.

SPIRAEA CHAMAEDRYFOLIA Linnaeus—Germander Meadowsweet (Figure 30). $2n = 18, 32, 36$. Roadsides. From Eurasia. [*S. CHAMAEDRYFOLIA* var. *ULMIFOLIA* (Scopoli) Maximowicz]

SPIRAEA HYPERICIFOLIA Linnaeus subsp. *OBOVATA* (Waldstein & Kitaibel *ex* Willdenow) Dostál—Iberian Spiraea (Figure 30). $2n = ?$ Roadside in dry calcareous, sandy soil. From Europe.

SPIRAEA JAPONICA Linnaeus f. var. *FORTUNEI* (Planchon) Rehder— Japanese Spiraea (Figure 31). $2n = 36$. Roadsides, railroads, thickets. From eastern Asia.

Spiraea latifolia (Aiton) Borkhausen—Smooth Meadowsweet (Figure 31). $2n = 36$. Low, open ground. [*S. alba* Du Roi var. *latifolia* (Aiton) H. E. Ahles]

SPIRAEA NIPPONICA Maximowicz—(Figure 31). $2n = ?$ Shrubland at edge of lowland plain. From Japan.

SPIRAEA PRUNIFOLIA Siebold & Zuccarini—Bridalwreath Spiraea (Figure 31). $2n = 18$. Roadsides, waste places, rocky knolls. From eastern Asia.

Spiraea septentrionalis (Fernald) Á. Löve & D. Löve—Alpine Meadowsweet (Figure 31). $2n = 54$. Alpine areas. [*S. alba* Du Roi var. *septentrionalis* (Fernald) Fosberg; *S. latifolia* (Aiton) Borkhausen var. *septentrionalis* Fernald]

SPIRAEA THUNBERGII Siebold *ex* Blume—Baby's-breath Spiraea (Figure 31). $2n = 18$. Dry, sandy, fields, open woods, clearings, roadsides, shores. From China.

Spiraea tomentosa Linnaeus—Hardhack (Figure 31). $2n = 24, 36$. Low, open, often moist, acidic soil, fields. [*S. tomentosa* var. *rosea* (Rafinesque) Fernald]

— *Spiraea* hybrid—

SPIRAEA × *VANHOUTTEI* (Briot) Carrière (*pro species*)—(Figure 31). [parentage uncertain; origin from cultivation]

Waldsteinia fragarioides (Michaux) Trattinnick—Barren Strawberry (Figure 31). $2n$ = 14, 21, 42. Rich, usually dry, woods, thickets, clearings, fields, roadsides. [*Geum fragarioides* (Michaux) Smedmark]

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LITERATURE CITED & CONSULTED

(general references listed in our previous articles are not repeated here)

Angelo, R. 1994. A computer method for producing dot distribution maps. Rhodora 96: 190–194.

Angelo, R. and D.E. Boufford. 1996. Atlas of the flora of New England: Pteridophytes and gymnosperms. Rhodora 98: 1–79.

Angelo, R. and D.E. Boufford. 1998. Atlas of the flora of New England: Poaceae. Rhodora 100: 101–233.

Angelo, R. and D.E. Boufford. 2000. Atlas of the flora of New England: Monocots except Poaceae and Cyperaceae. Rhodora 102: 1–119.

Angelo, R. and D.E. Boufford. 2007. Atlas of the flora of New England: Cyperaceae. Rhodora 109: 237–360.

Angelo, R. and D.E. Boufford. 2010. Atlas of the flora of New England: Magnoliidae & Hamamelidae. Rhodora 112: 244–326.

Angelo, R. and D.E. Boufford. 2011a. Atlas of the flora of New England: Salicaceae to Brassicaceae. Phytoneuron 2011–12: 1–12 + figs. 1–53 (maps).

Angelo, R. and D.E. Boufford. 2011b. Atlas of the flora of New England: Paeoniaceae to Ericaceae. Phytoneuron 2011–53: 1–13 + figs. 1–18 (maps).

Angelo, R. and D.E. Boufford. 2011c. Atlas of the flora of New England: Pteridophytes and Gymnosperms: Introduction. <http://neatlas.org/Intro-Pterid&Gym.html>.

Angelo, R. and D.E. Boufford. 2012a. Atlas of the flora of New England: Caryophyllidae. Rhodora 113: 419–513.

Angelo, R. and D.E. Boufford. 2012b. Atlas of the flora of New England: Asteraceae. Phytoneuron 2012–34: 1–39 + figs. 1–56 (maps).

Campbell, C.S. and E. Doucette. 2010. *Amelanchier* Systematics and Evolution Website, <http://sbe.umaine.edu/amelanchier/>.

Chung, K.S. 2008. A Systematic Study of the Genus *Agrimonia* (Rosaceae). Ph.D. thesis. University of Oklahoma, Norman, Oklahoma.

Cullina, M.D., B. Connolly, B. Sorrie, and P. Somers. 2011. The Vascular Plants of Massachusetts: A County Checklist (rev. 1). Massachusetts Natural Heritage & Endangered Species Program, Massachusetts Division of Fisheries & Wildlife, Westborough, Massachusetts.

Davis, H.A. 1990. Studies in *Rubus*. Castanea 55: 22–30.

Davis, H.A., A.M. Fuller and T. Davis. 1967. Contributions toward the revision of the *Eubati* of Eastern North America. Castanea 32: 20–37.

Davis, H.A., A.M. Fuller and T. Davis. 1968a. Contributions toward the revision of the *Eubati* of Eastern North America. II. *Setosi*. Castanea 33: 50–76.

Davis, H.A., A.M. Fuller and T. Davis. 1968b. Contributions toward the revision of the *Eubati* of Eastern North America. III. *Flagellares*. Castanea 33: 206–241.

Davis, H.A., A.M. Fuller and T. Davis. 1969a. Contributions toward the revision of the *Eubati* of Eastern North America. IV. Castanea 34: 157–179.

Davis, H.A., A.M. Fuller and T. Davis. 1969b. Contributions toward the revision of the *Eubati* of Eastern North America. V. *Arguti*. Castanea 34: 235–266.

Davis, H.A., A.M. Fuller and T. Davis. 1970. Contributions toward the revision of the *Eubati* of Eastern North America. VI. *Cuneifolii*. Castanea 35: 176–194.

Davis, H.A., A.M. Fuller, and T. Davis. 1982. Some comments on *Rubus*. Castanea 47: 216–219.

Dickinson, T.A., E. Lo, and N. Talent. 2007. Polyploidy, reproductive biology, and Rosaceae: understanding evolution and making classifications. Plant Systematics and Evolution 266: 59–78.

Fernald, M.L. 1950. Gray's Manual of Botany (ed. 8). American Book Company, New York.

Gleason, H.A. and A. Cronquist. 1991. Manual of Vascular Plants of Northeastern United States and Adjacent Canada 2nd ed. The New York Botanical Garden, Bronx, New York.

Goldblatt, P. and D.E. Johnson (eds.). 1979–. Index to Plant Chromosome Numbers (IPCN). Missouri Botanical Garden, St. Louis. <http://www.tropicos.org/Project/IPCN>.

Hodgdon, A.R. and F.L. Steele. 1966. *Rubus* Subgenus *Eubatus* in New England. Rhodora 68: 474–513.

Kline, G.J. and P. Sørensen. 2008. A revision of *Agrimonia* (Rosaceae) in North and Central America. Brittonia 60: 11–33.

Kruschke, E.P. 1965. Contributions to the Taxonomy of *Crataegus*. Milwaukee Public Museum, Publications in Botany (Number 3), Milwaukee, Wisconsin.

Lewis, W.H. 2008. *Rosa carolina* (Rosaceae) subspecies and hybrids in eastern and midwestern United States, Canada, and Mexico. Novon 18: 192–198.

Phipps, J.B. and M. Muniyamma. 1980. A taxonomic revision of *Crataegus* (Rosaceae) in Ontario. Canad. J. of Bot. 58: 1621–1699.

Potter, D., T. Eriksson, R.C. Evans, S. Oh, J.E.E. Smedmark, D.R. Morgan, M. Kerr, K.R. Robertson, M. Arsenault, T.A. Dickinson, and C.S. Campbell. 2007. Phylogeny and classification of Rosaceae. Pl. Syst. Evol. 266: 5–43.

Rehder, A. 1940. Manual of Cultivated Trees and Shrubs (ed. 2). Macmillan Publishing Co., Inc., New York

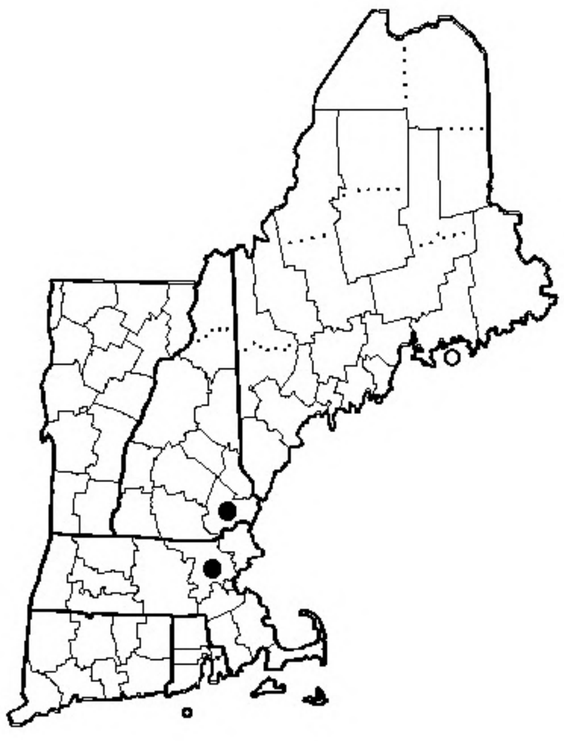
Seymour, F.C. 1982. The Flora of New England, 2nd ed. Phytologia Mem. V. Plainfield, New Jersey.

Steele, F.L. and A.R. Hodgdon. 1970. Hybrids in *Rubus* Subgenus *Eubatus* in New England. Rhodora 72: 240–250.

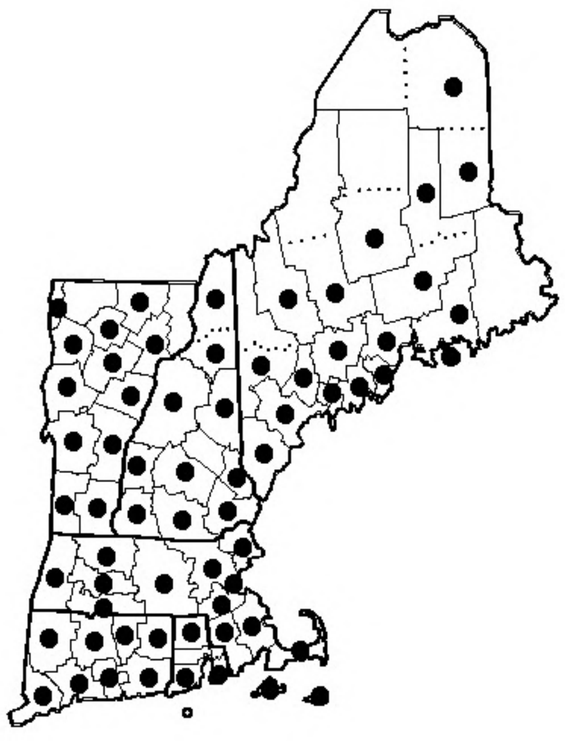
Stevens, P.F. 2001 onwards. Angiosperm Phylogeny Website, version 9, June 2008 [and more or less continuously updated since]. <http://www.mobot.org/MOBOT/research/APweb/>

Thompson, M.M. 1997. Survey of chromosome numbers in *Rubus* (Rosaceae: Rosoideae). Ann. of Missouri Bot. Gard. 84: 128–164.

Figure 1. Key map for counties of the New England states (and Mt. Desert Island, Maine; Block Island, Rhode Island; arbitrary divisions of larger Maine counties and of Coös County, New Hampshire).



AGRIMONIA EUPATORIA



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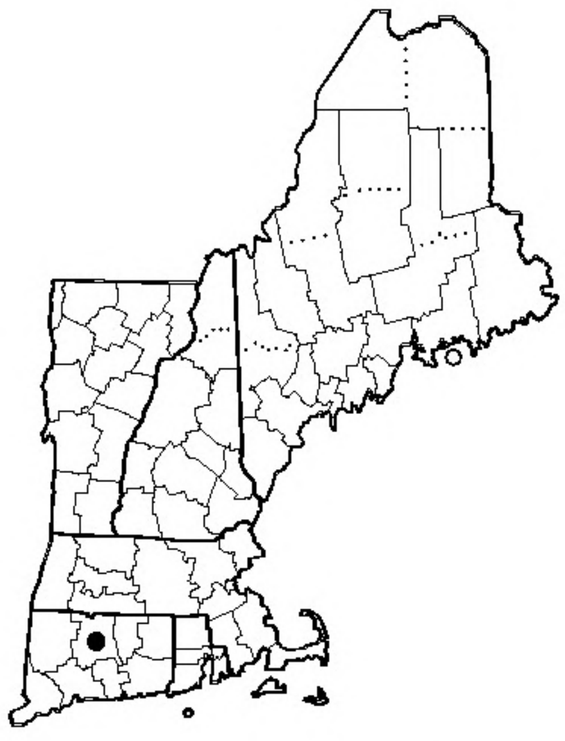

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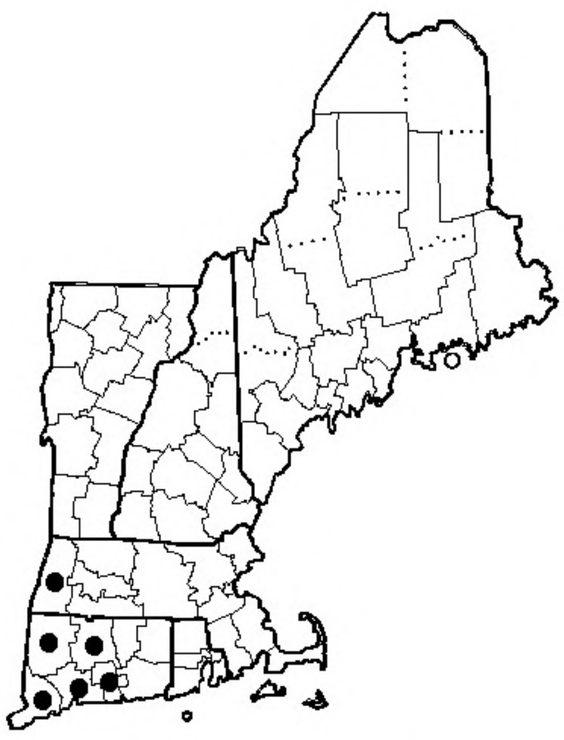

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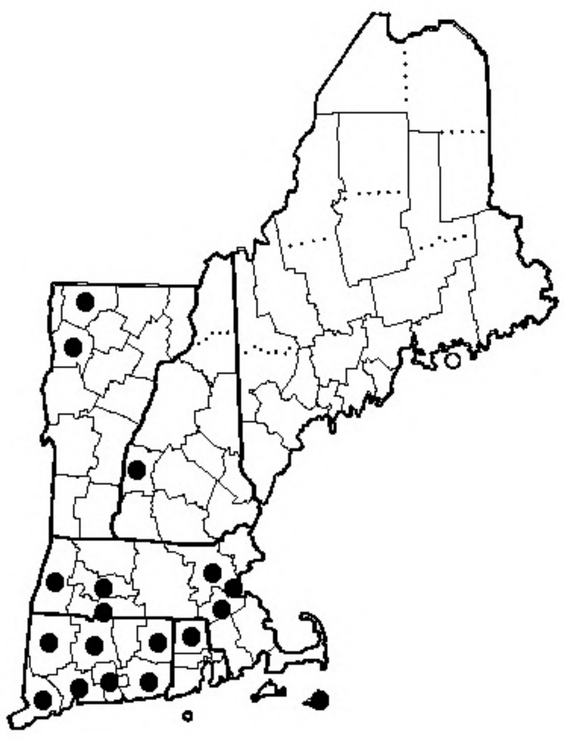

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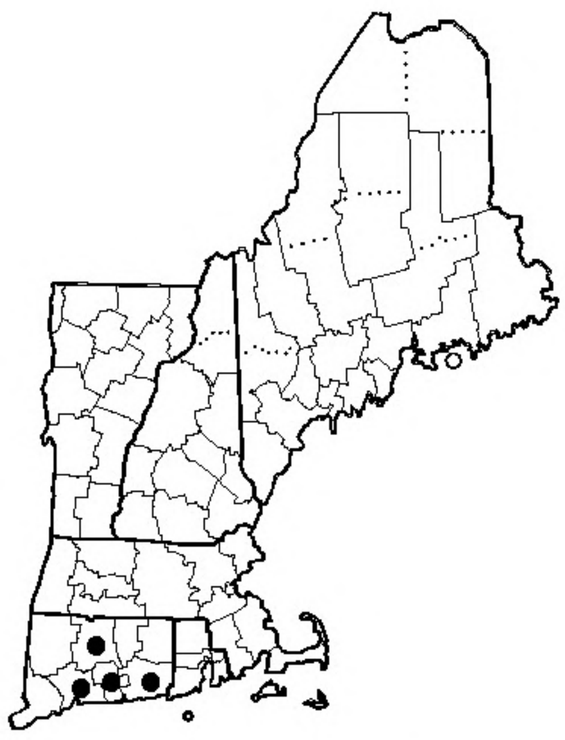

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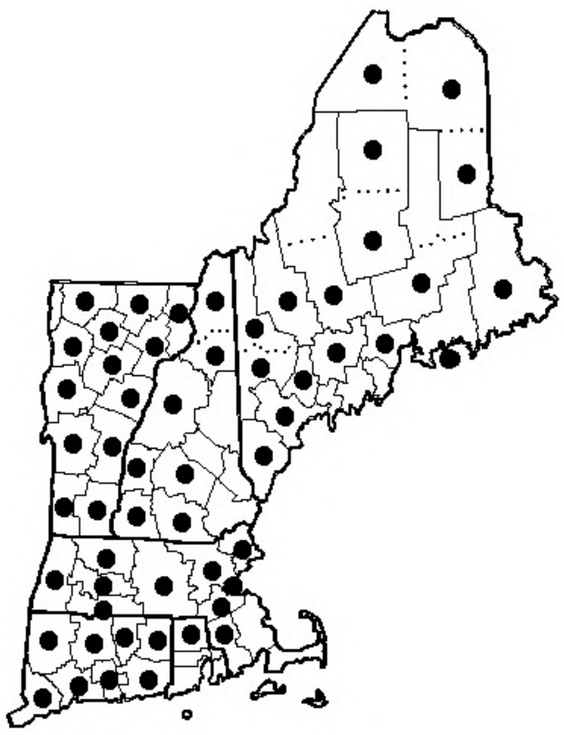

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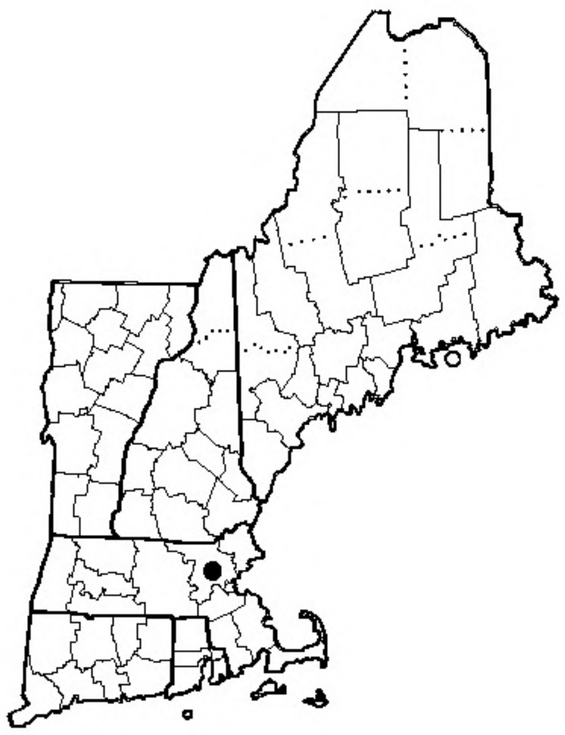

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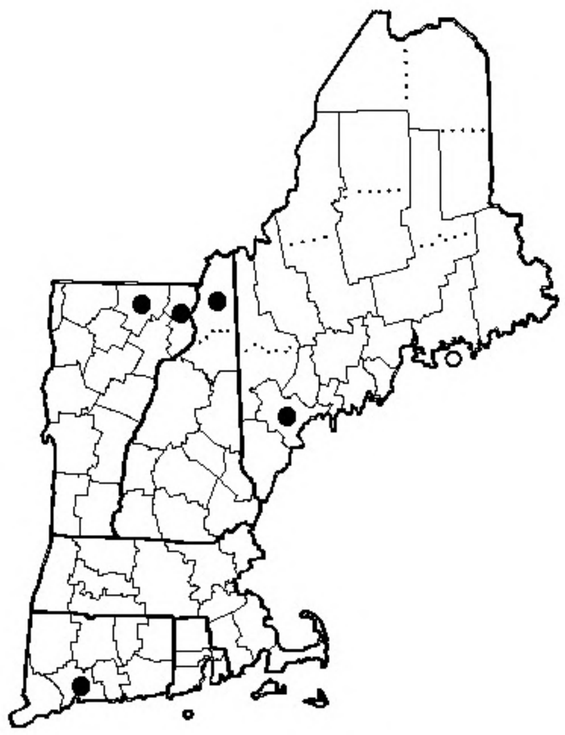
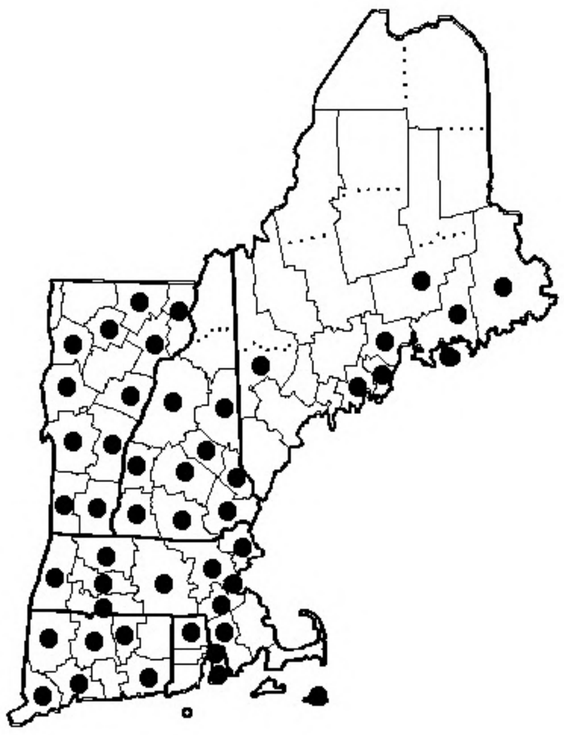
subsp. *VESTITA*

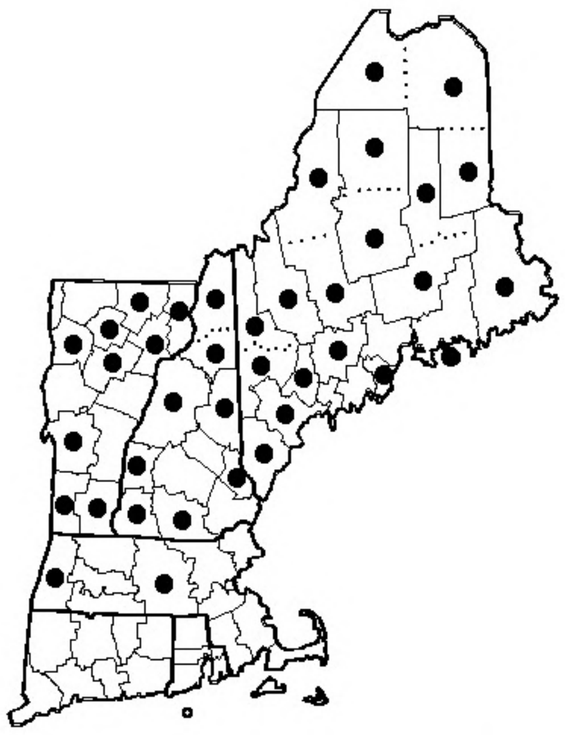


ALCHEMILLA MONTICOLA

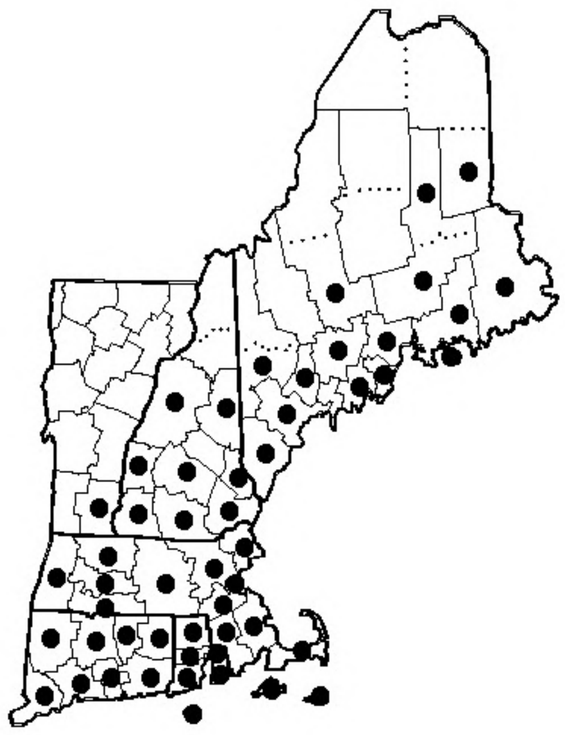
Figure 2. Distribution maps.



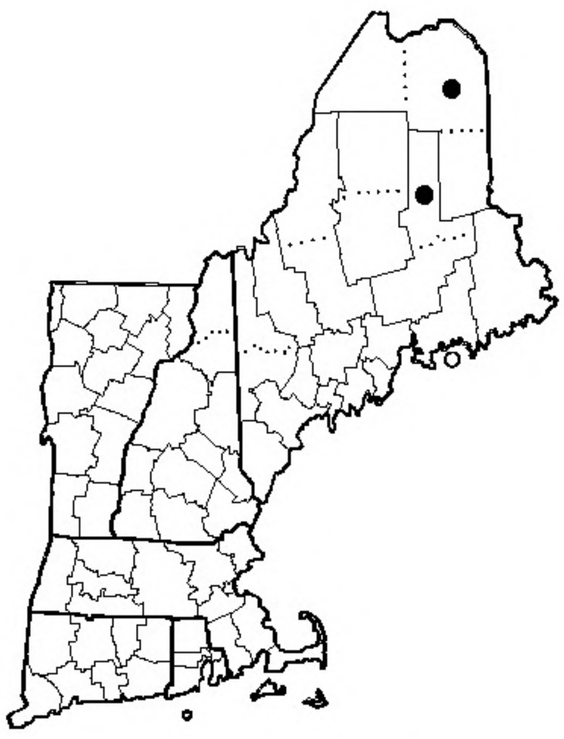
Amelanchier arborea



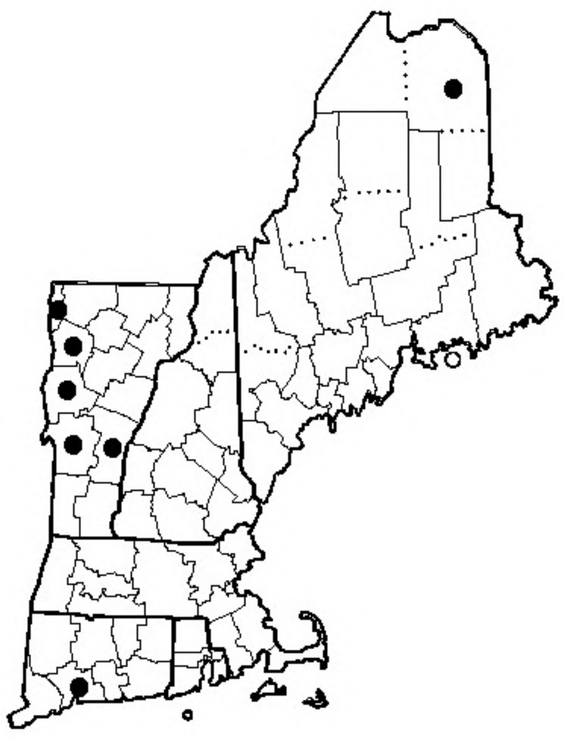
Amelanchier bartramiana



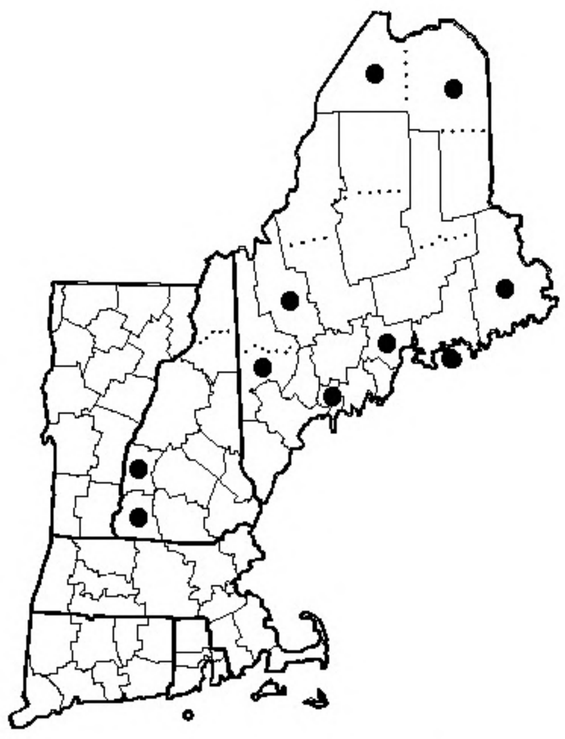
Amelanchier canadensis
var. *canadensis*



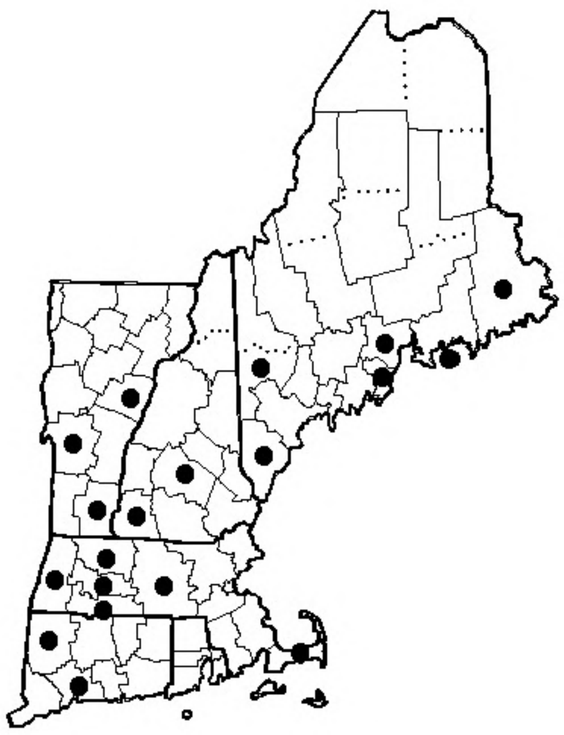
Amelanchier gaspensis



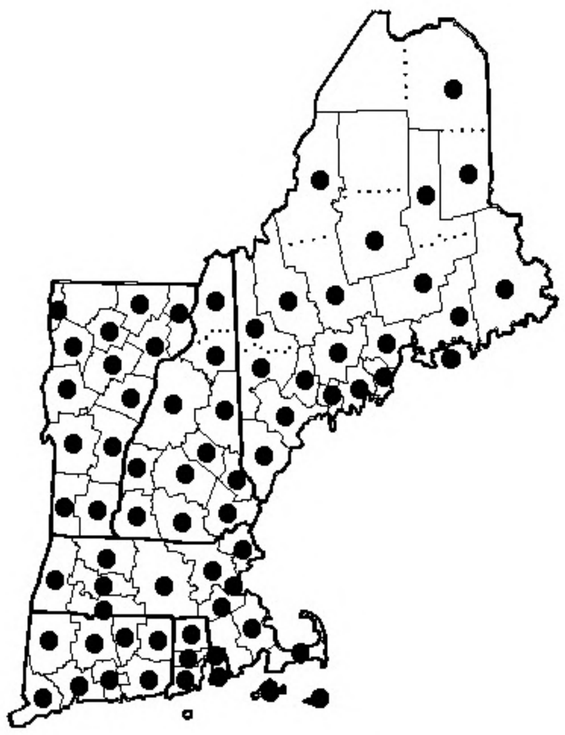
Amelanchier humilis



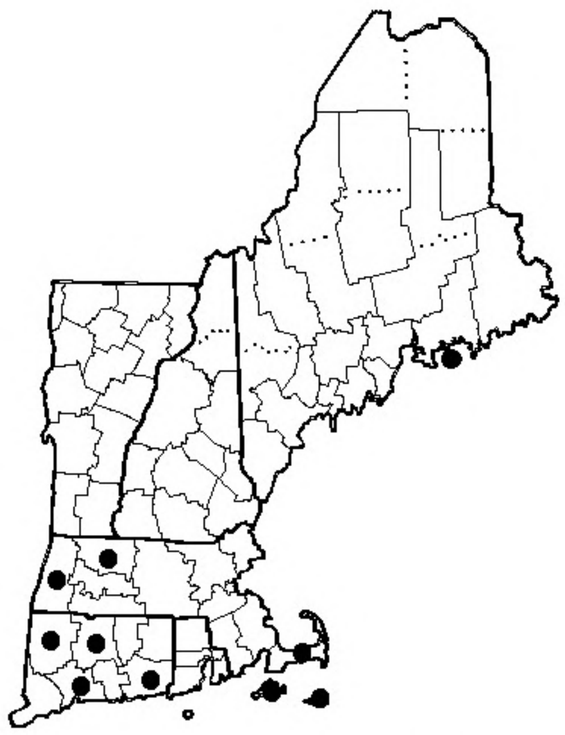
Amelanchier interior



Amelanchier intermedia

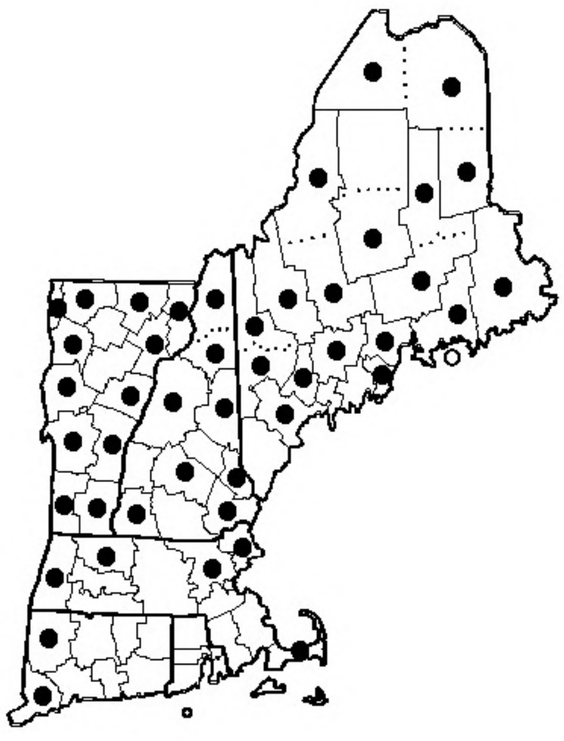


Amelanchier laevis

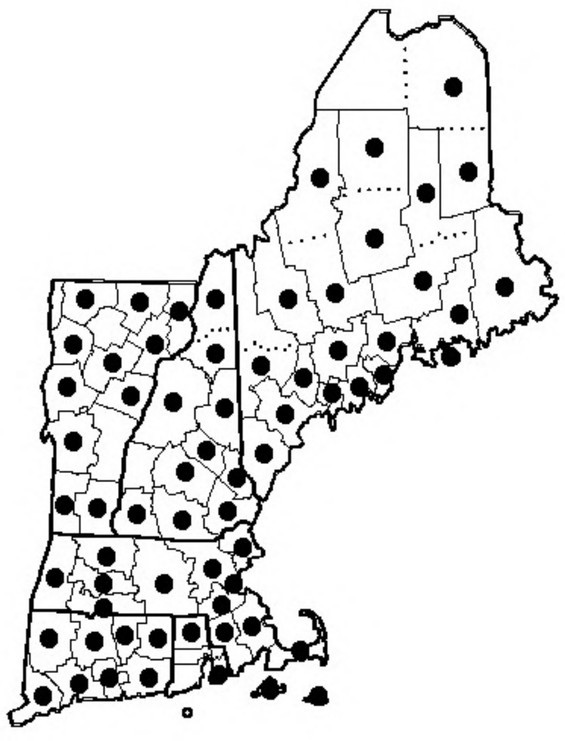


Amelanchier nantucketensis

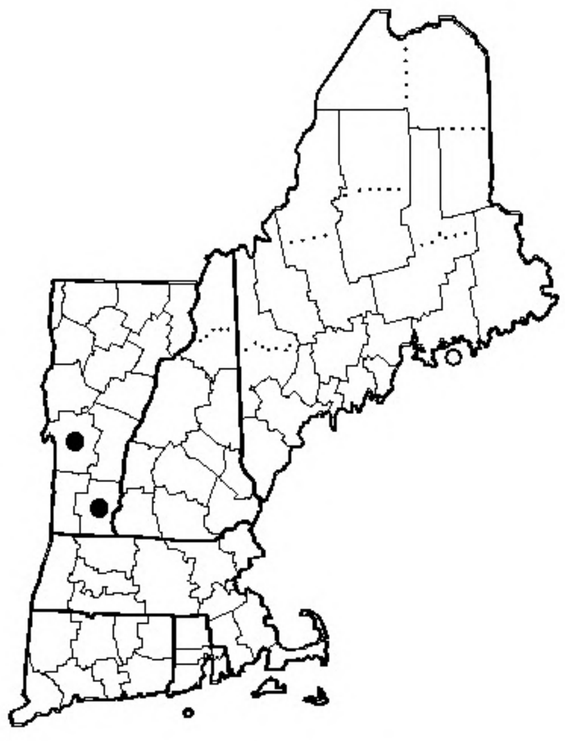
Figure 3. Distribution maps.



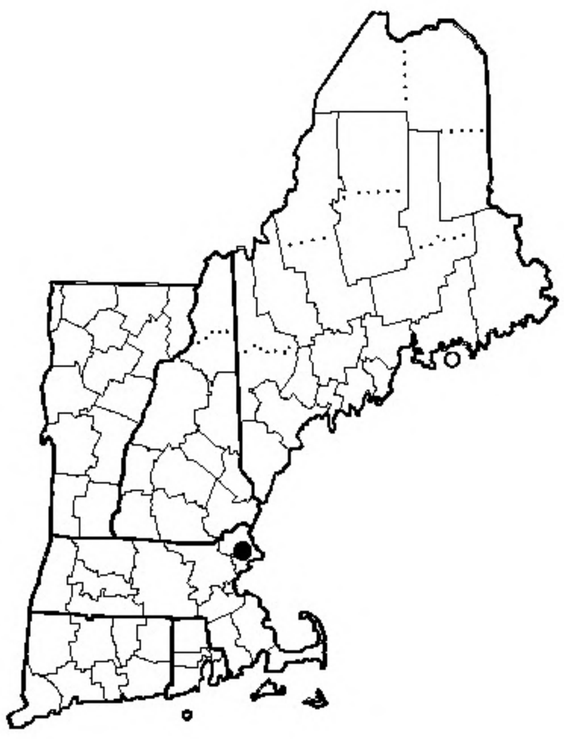
Amelanchier sanguinea



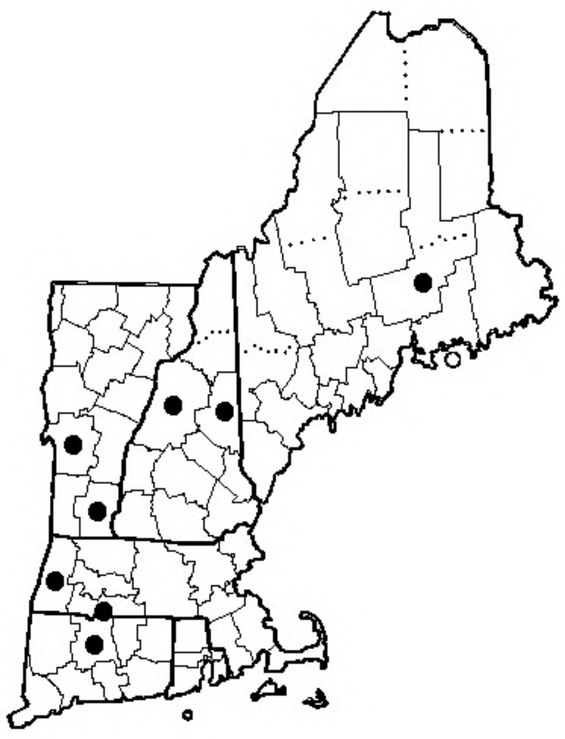
Amelanchier spicata



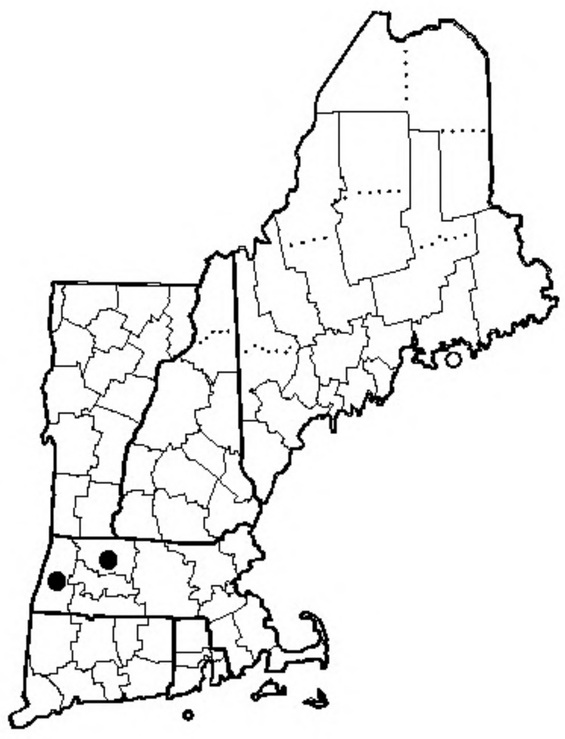
Amelanchier arborea
X *A. bartramiana*



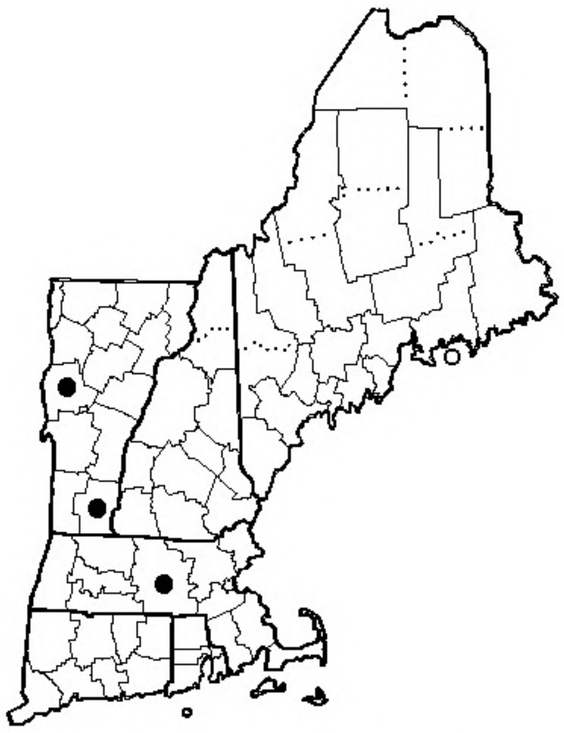
Amelanchier arborea
X *A. canadensis* var. *canadensis*



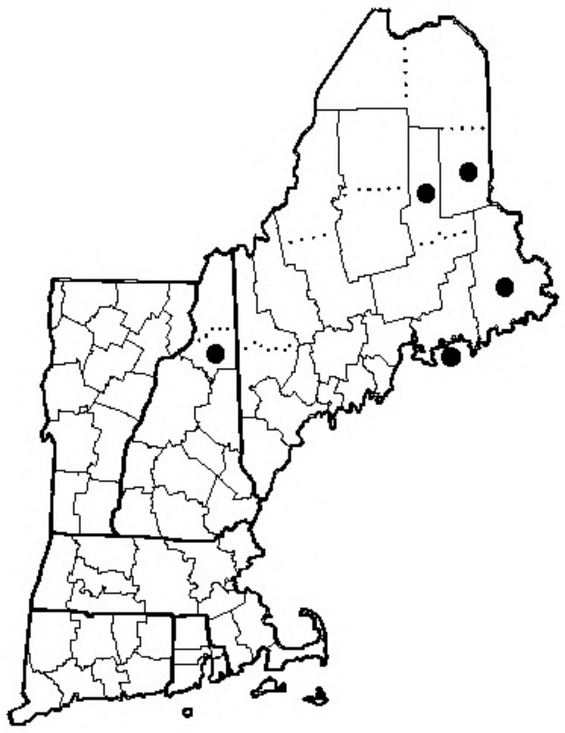
Amelanchier arborea
X *A. laevis*



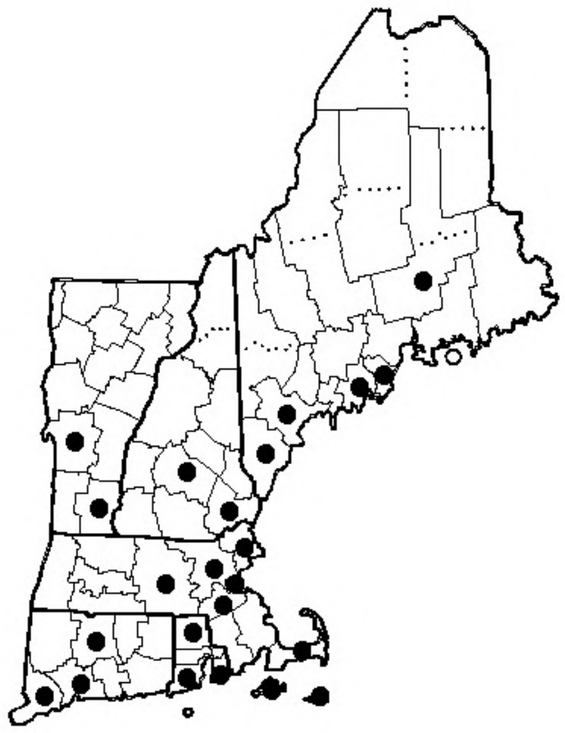
Amelanchier arborea
X *A. spicata*



Amelanchier bartramiana
X *A. canadensis* var. *canadensis*

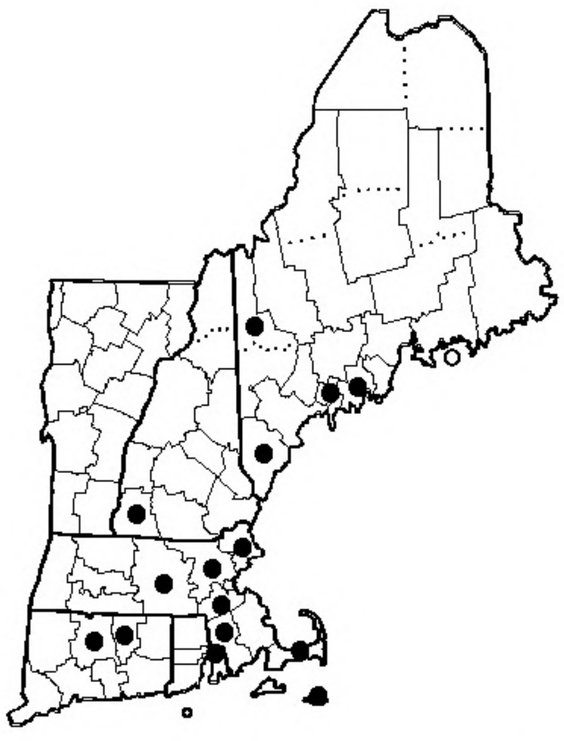


Amelanchier bartramiana
X *A. spicata*

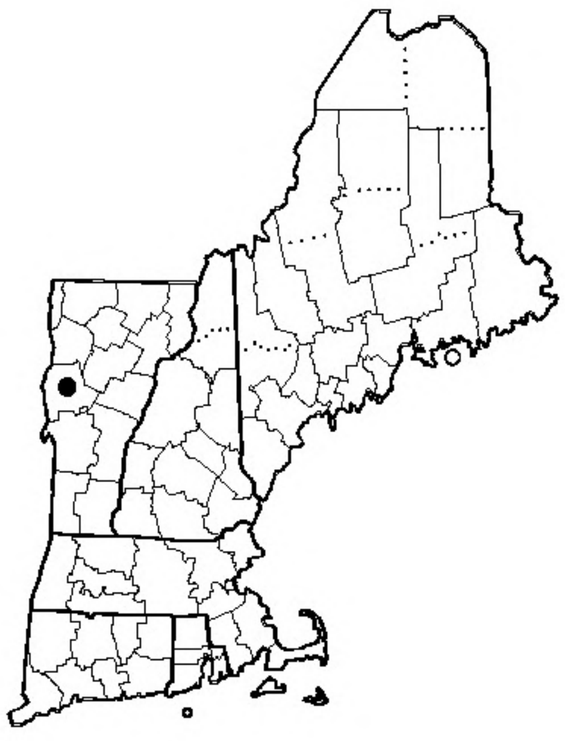


Amelanchier canadensis var. *canadensis*
X *A. laevis*

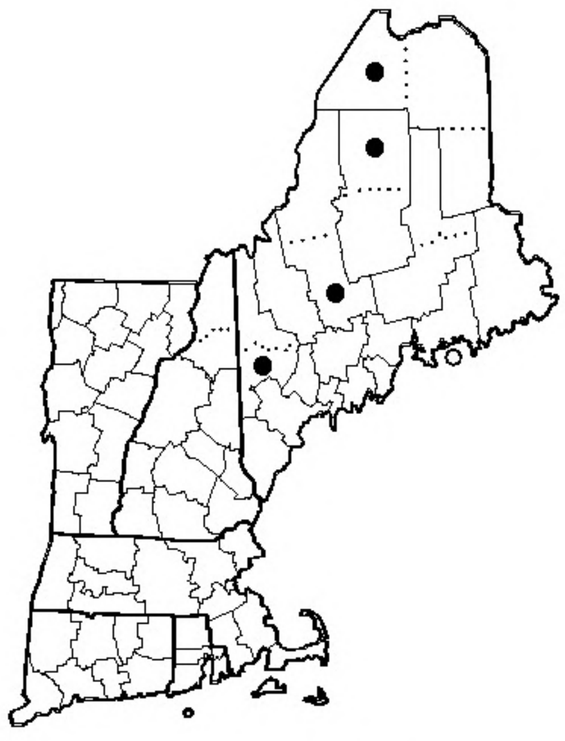
Figure 4. Distribution maps.



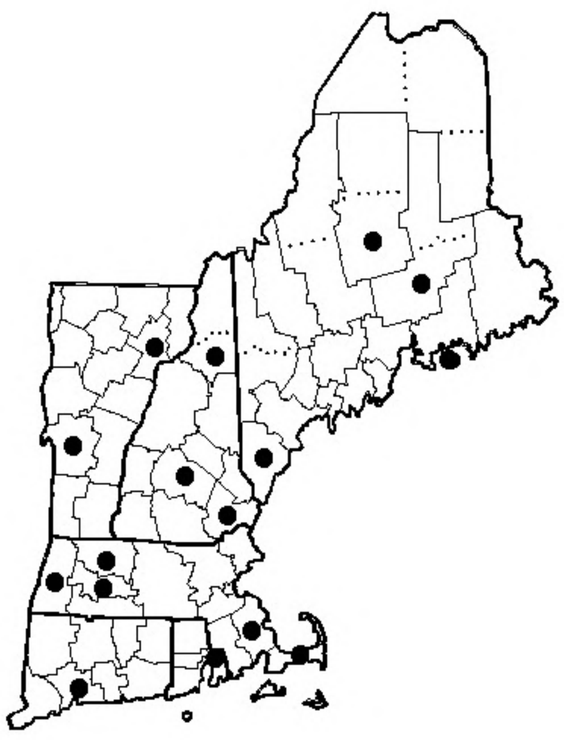
Amelanchier canadensis var. *canadensis* X *A. spicata*



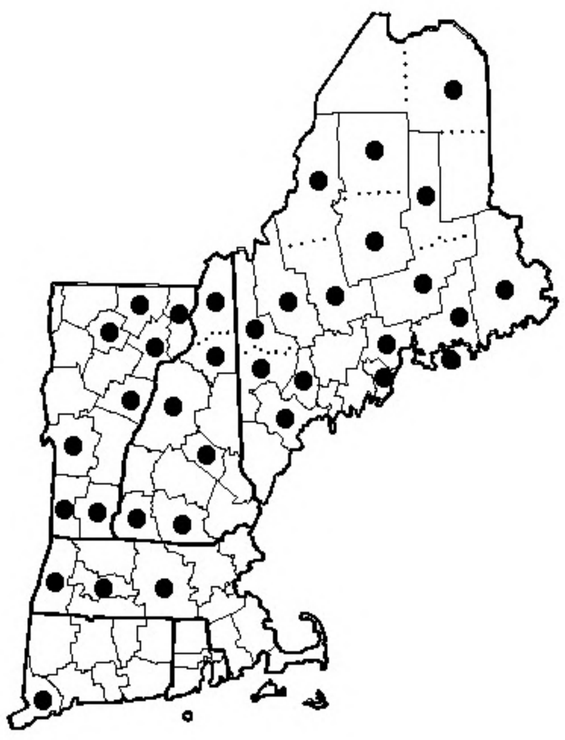
Amelanchier humilis X *A. laevis*



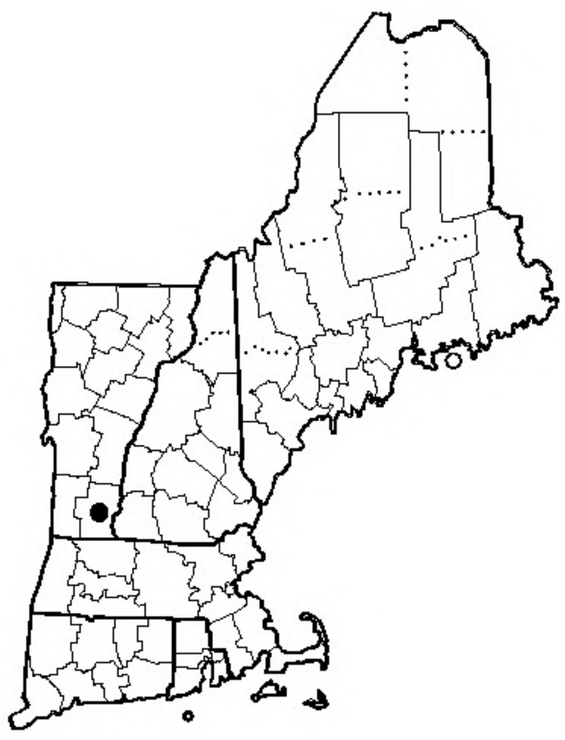
Amelanchier laevis X *A. sanguinea*



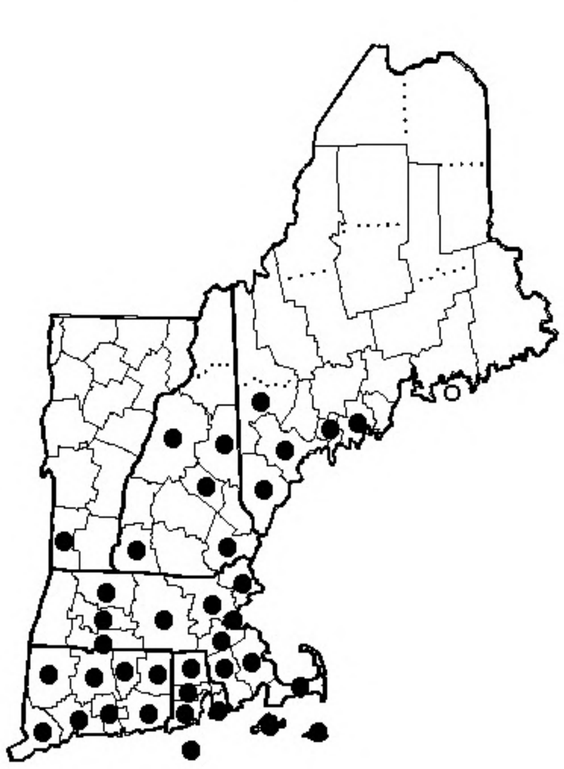
Amelanchier laevis X *A. spicata*



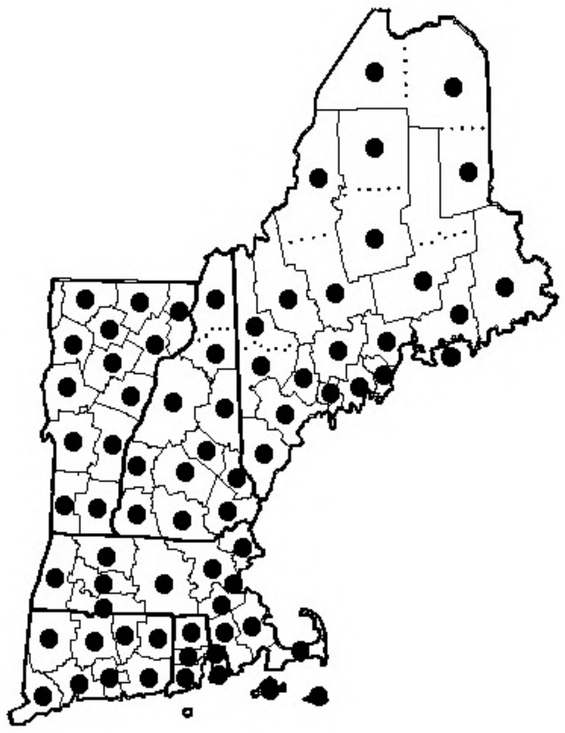
Amelanchier X *neglecta*



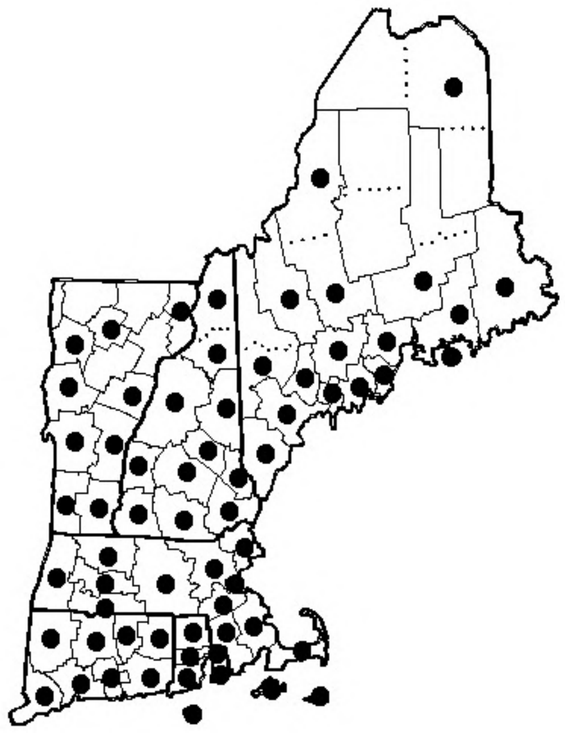
Amelanchier sanguinea X *A. spicata*



Aronia arbutifolia

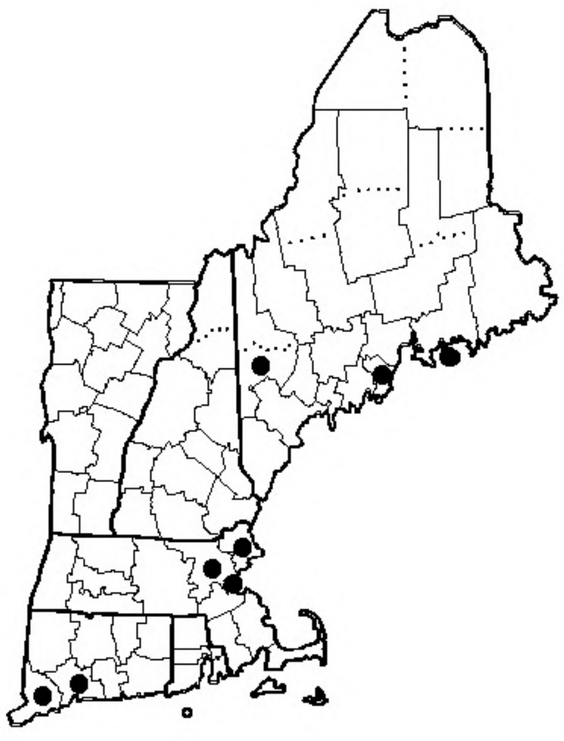


Aronia melanocarpa

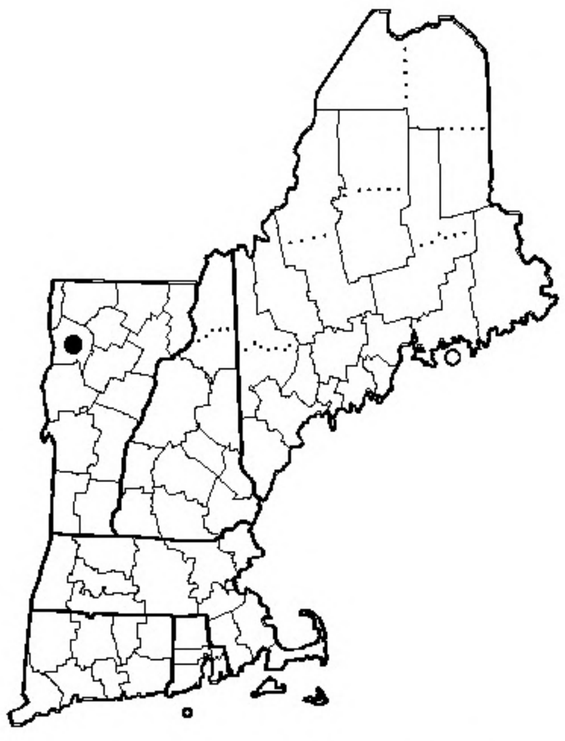


Aronia X *prunifolia*

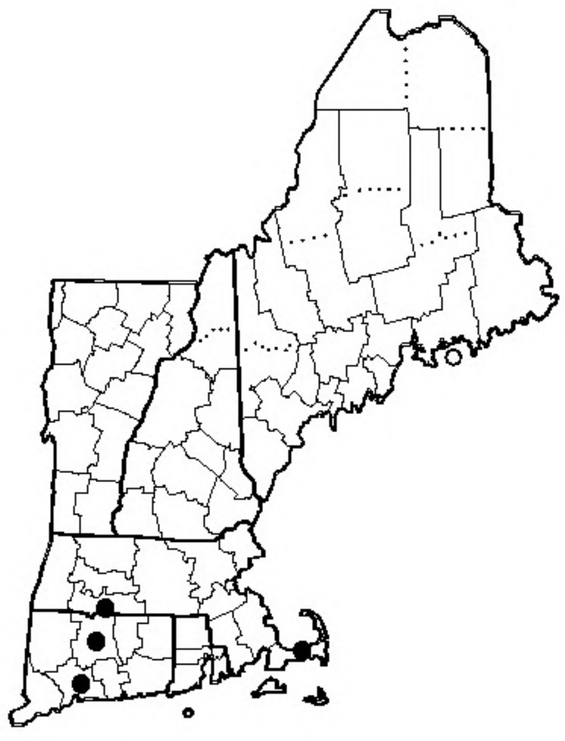
Figure 5. Distribution maps.



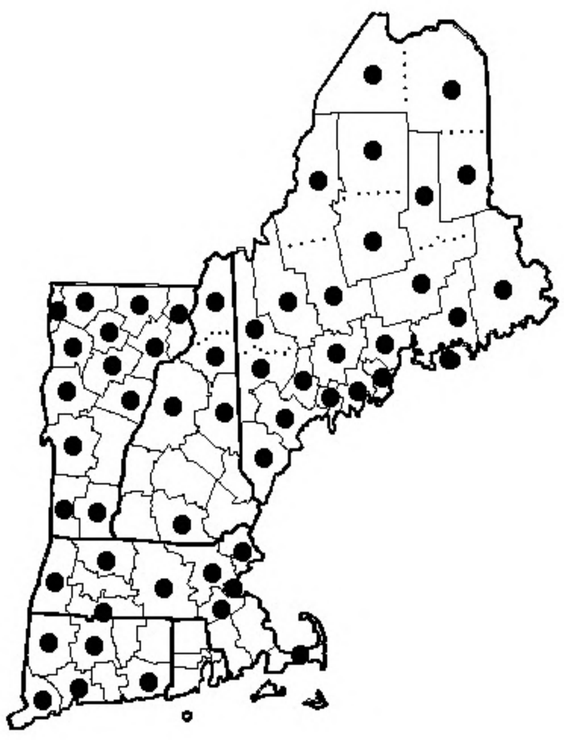
ARUNCUS DIOICUS
var. *DIOICUS*



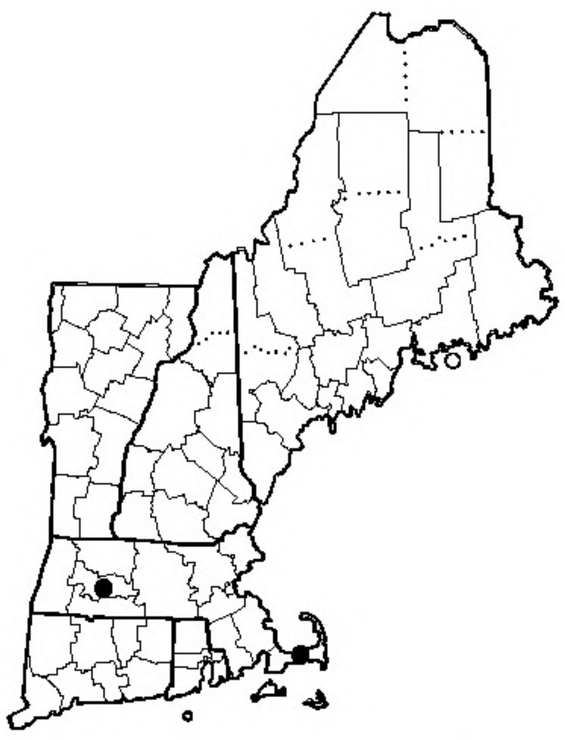
CHAENOMELES JAPONICA



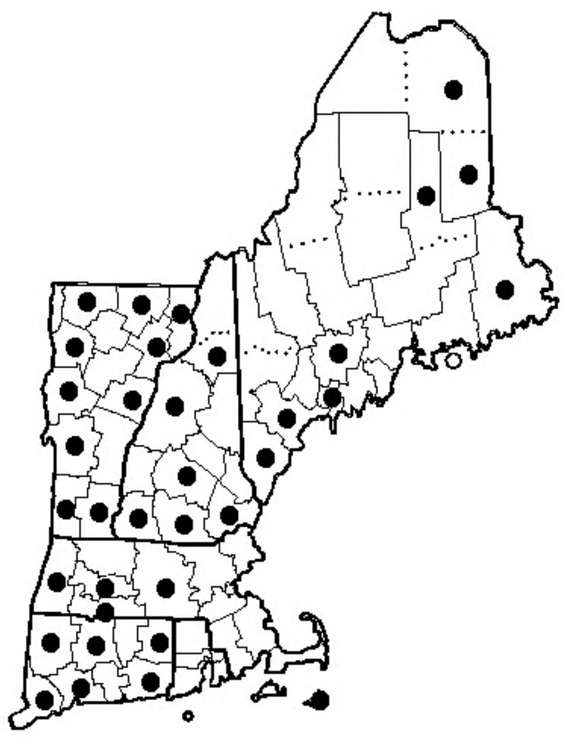
CHAENOMELES SPECIOSA



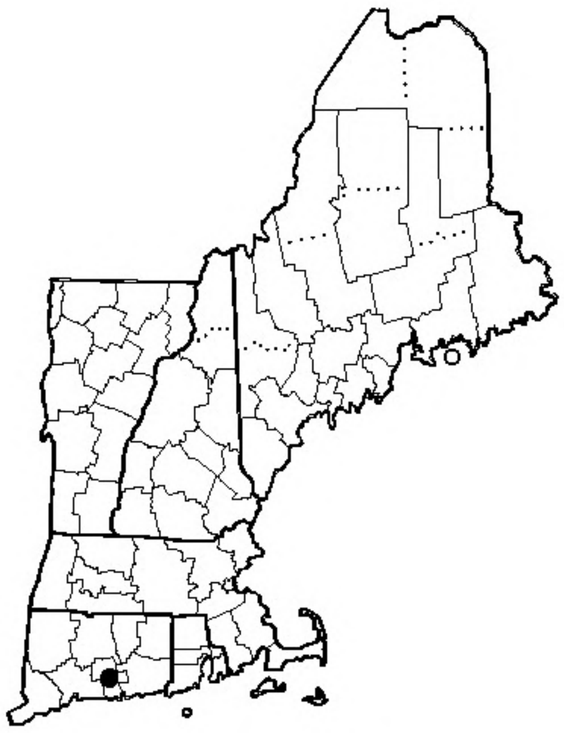
Comarum palustre



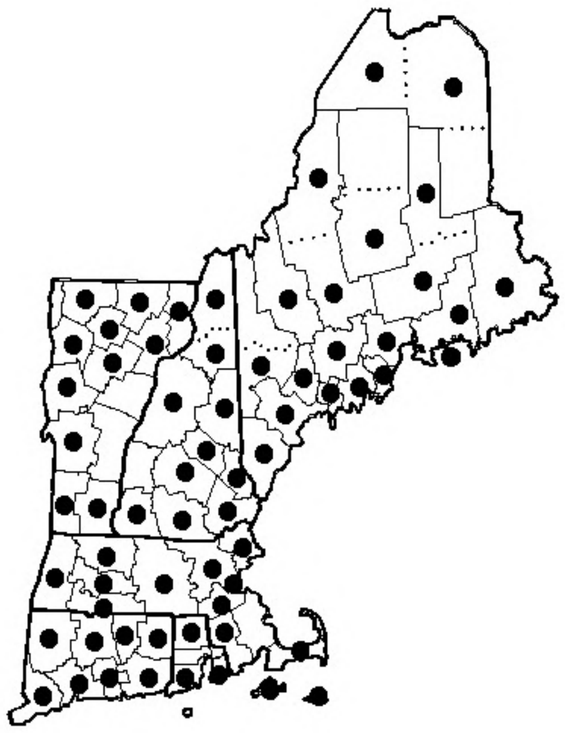
COTONEASTER DIVARICATUS



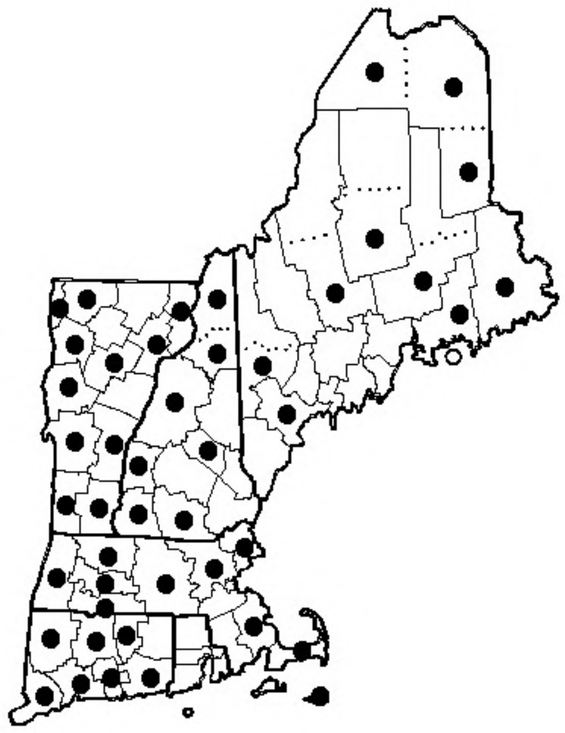
Crataegus brainerdii



Crataegus calpodendron

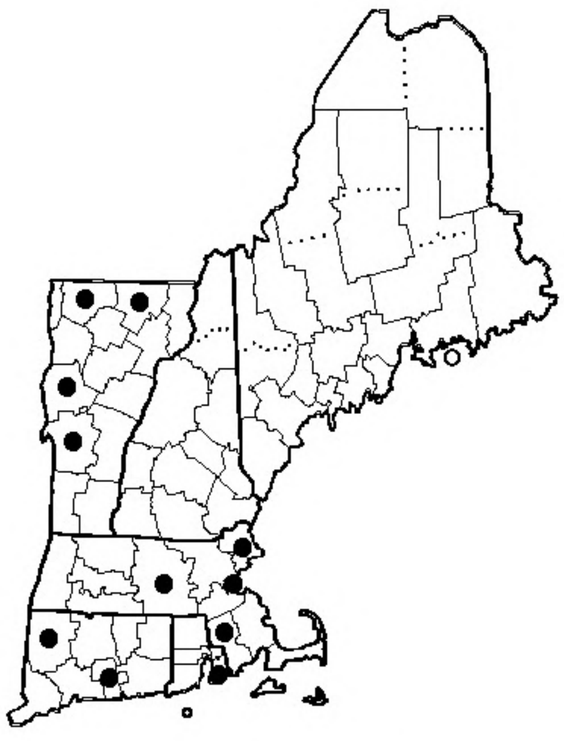


Crataegus chrysocarpa

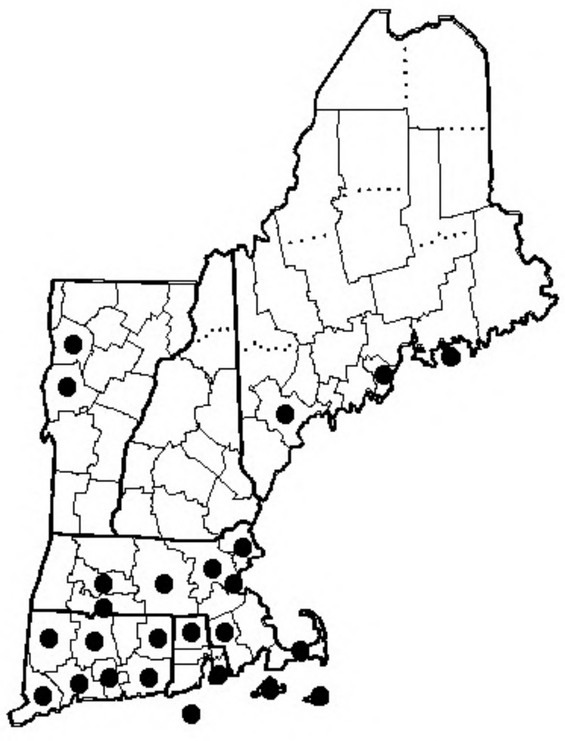


Crataegus coccinea

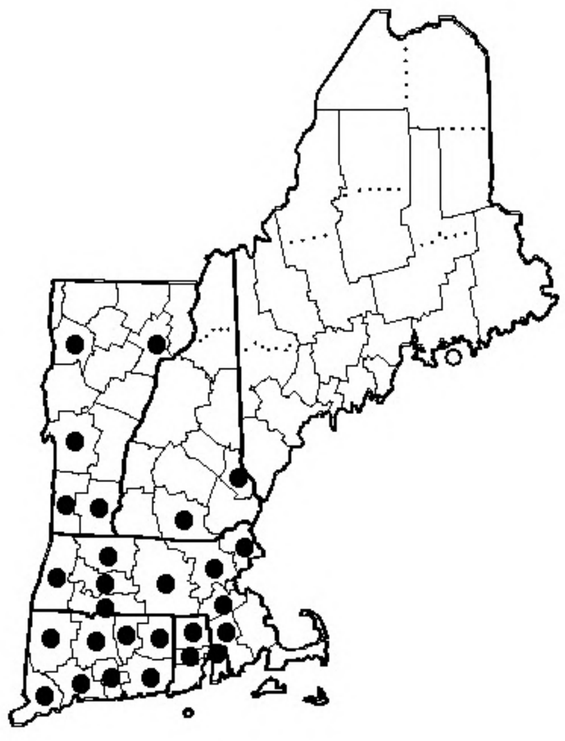
Figure 6. Distribution maps.



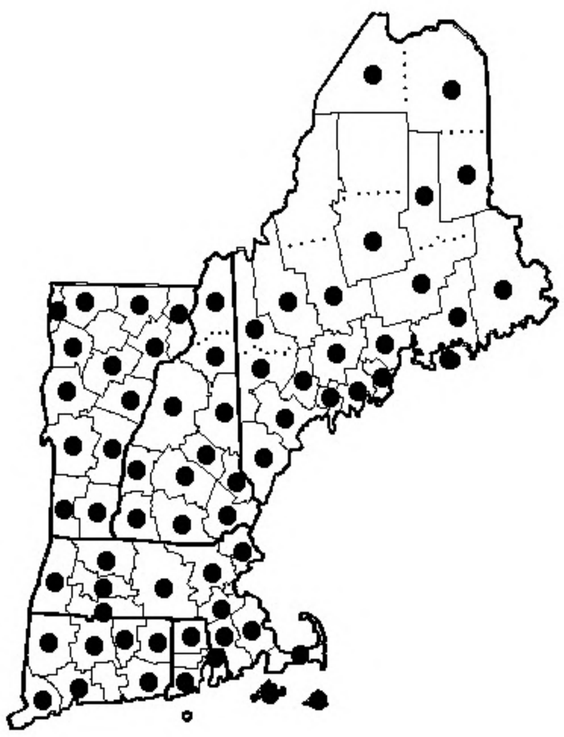
Crataegus coccinioides



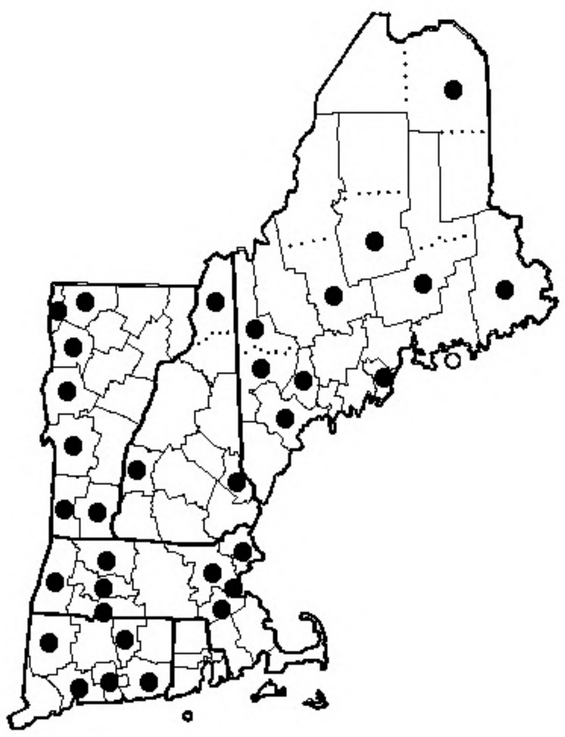
Crataegus crus-galli



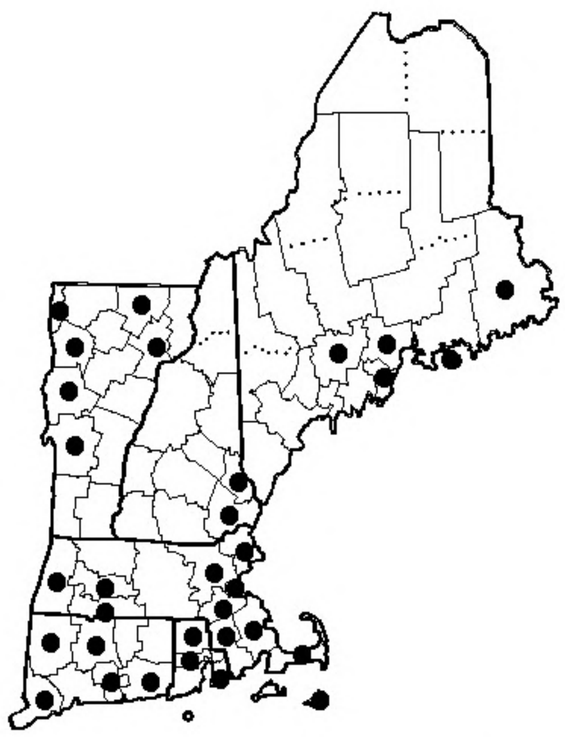
Crataegus intricata



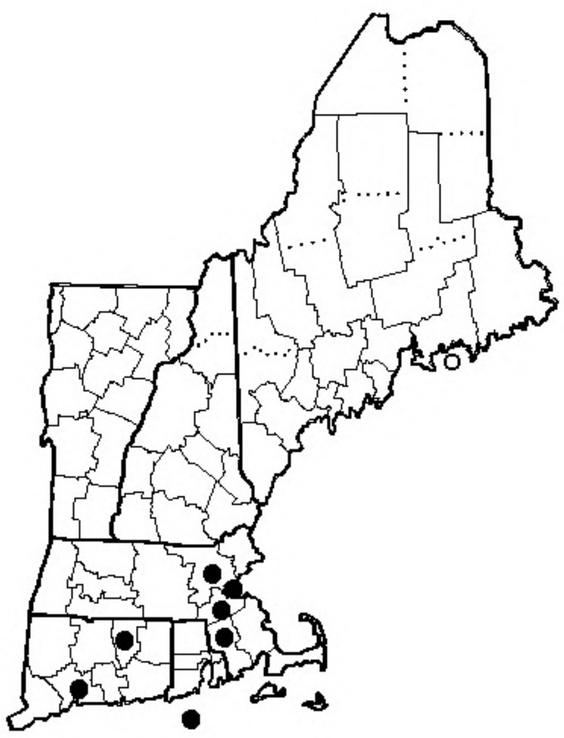
Crataegus macrosperma



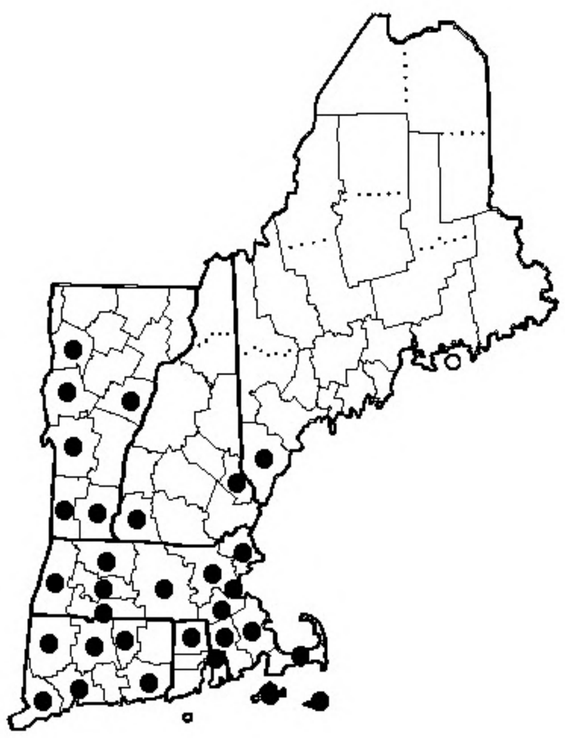
Crataegus mollis



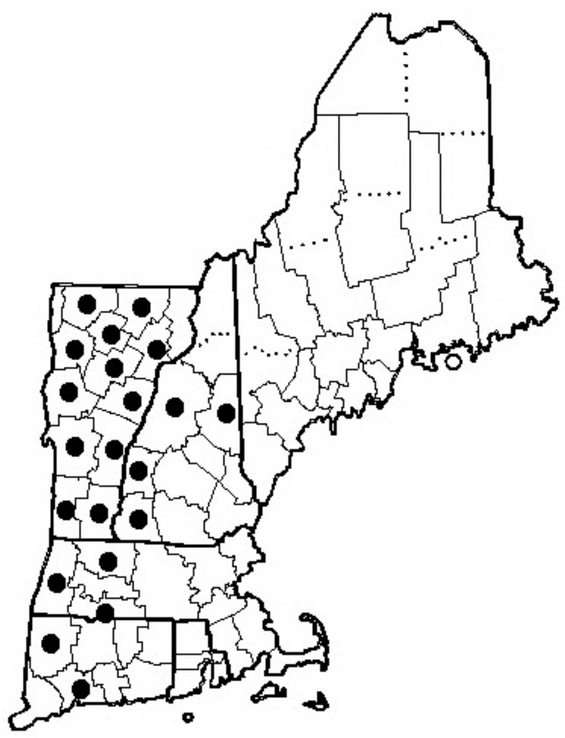
CRATAEGUS MONOGYNA



CRATAEGUS PHAENOPYRUM

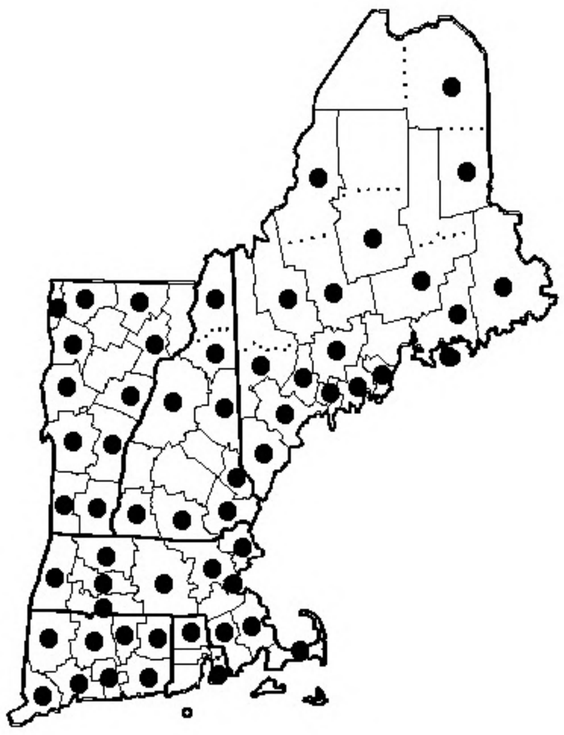


Crataegus pruinosa

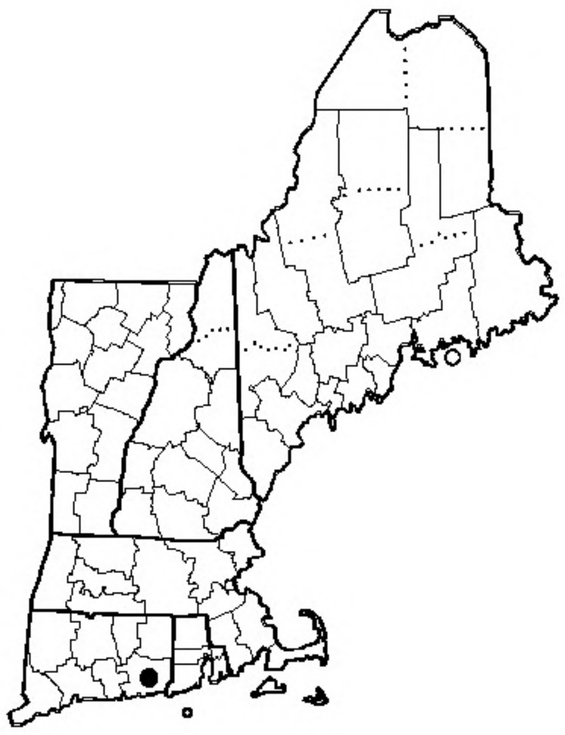


Crataegus punctata

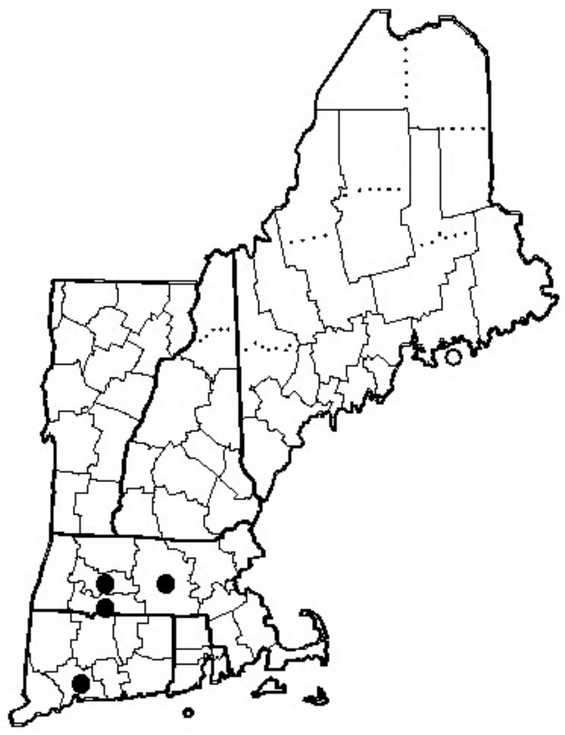
Figure 7. Distribution maps.



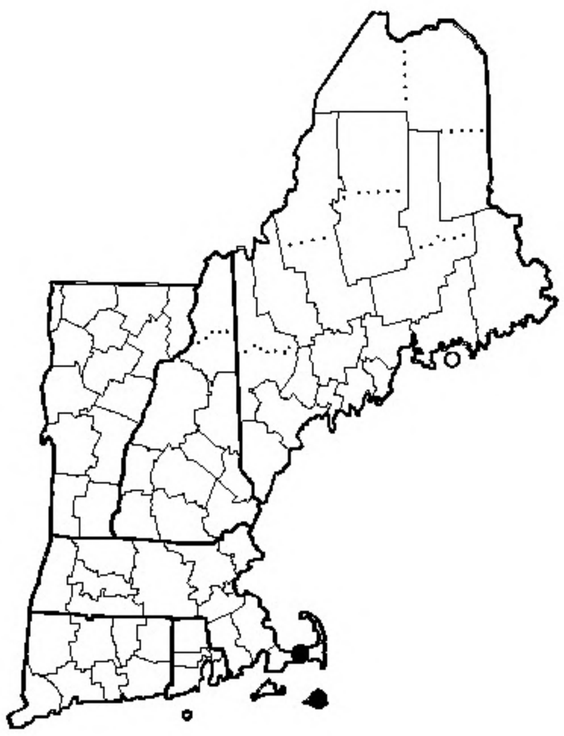
Crataegus succulenta



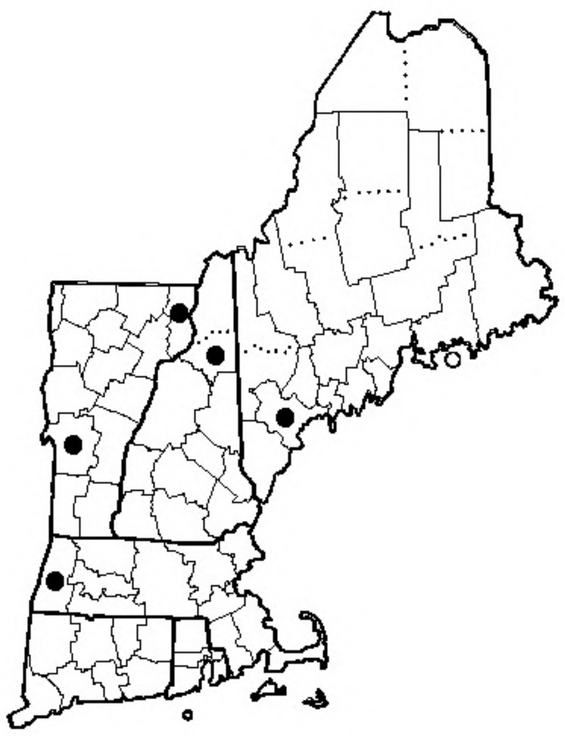
Crataegus X *anomala*



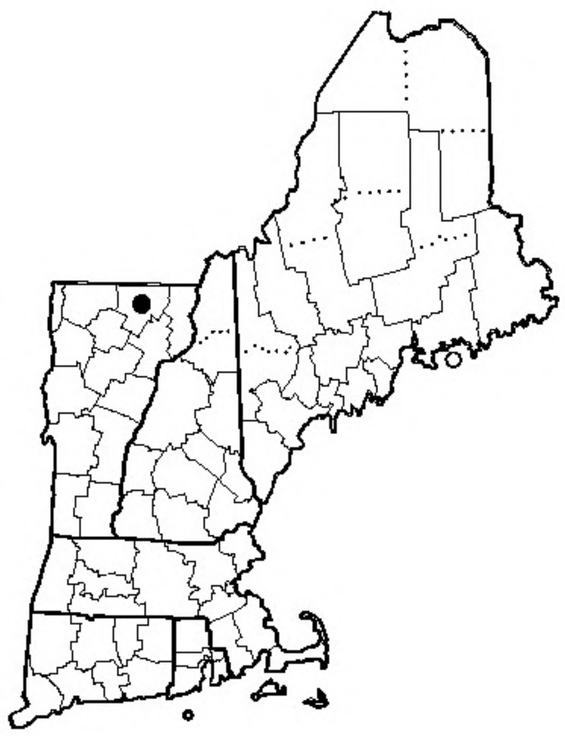
Crataegus X *haemacarpa*



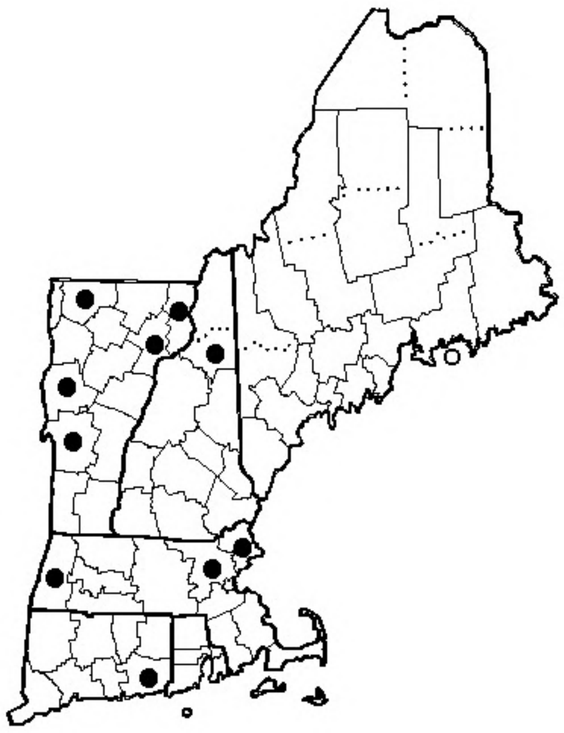
Crataegus X *hudsonica*



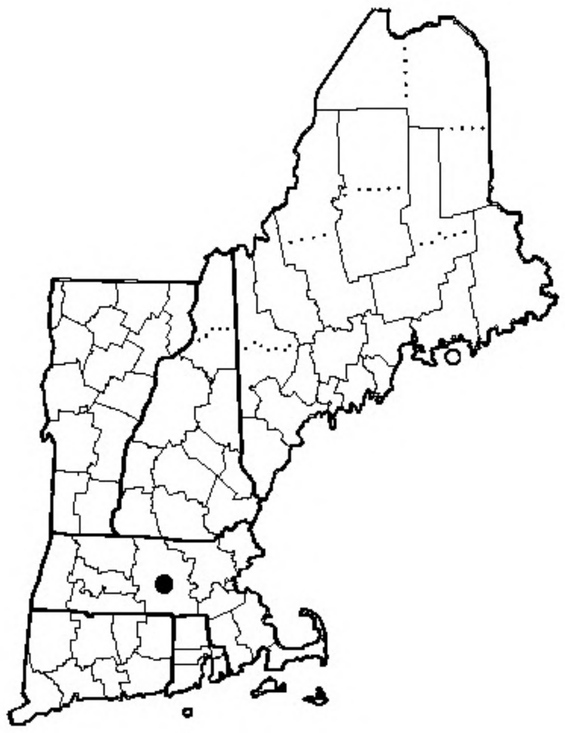
Crataegus X *ideae*



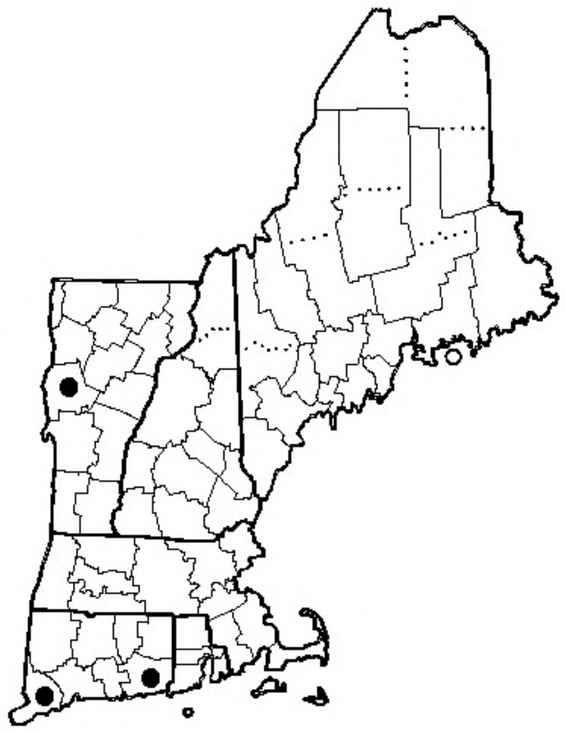
Crataegus X *kennedyi*



Crataegus X *lucorum*

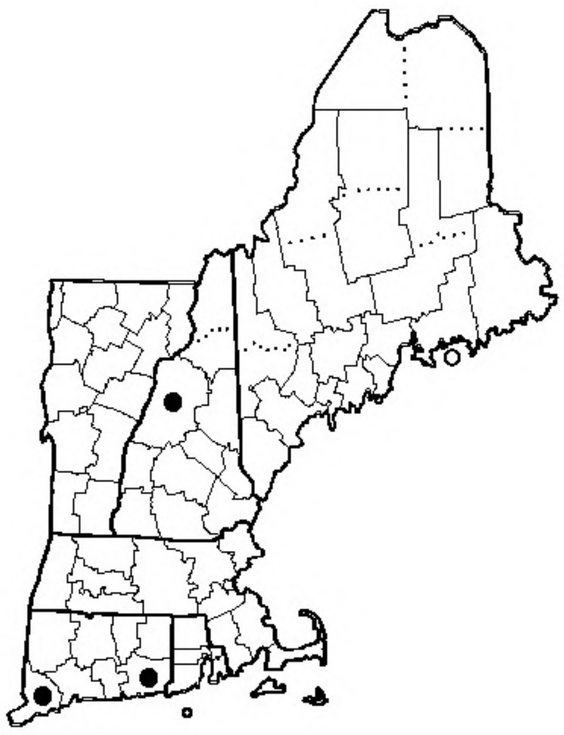


Crataegus X *pilosa*

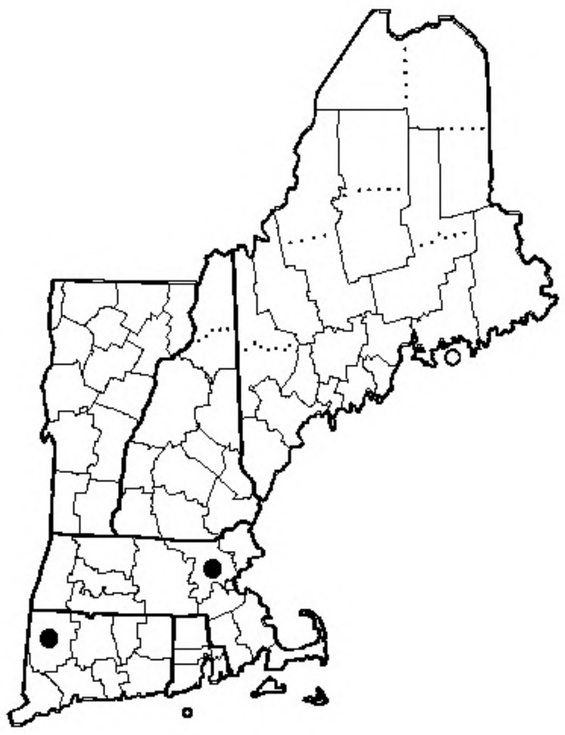


Crataegus X *spatiosa*

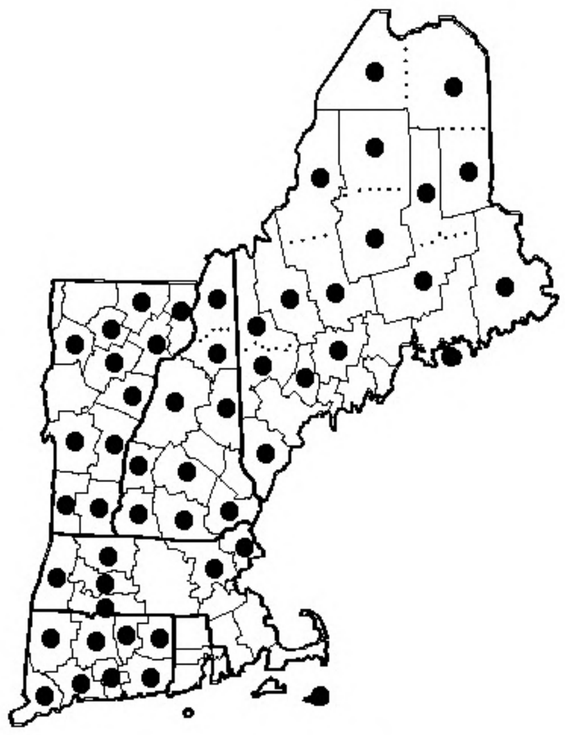
Figure 8. Distribution maps.



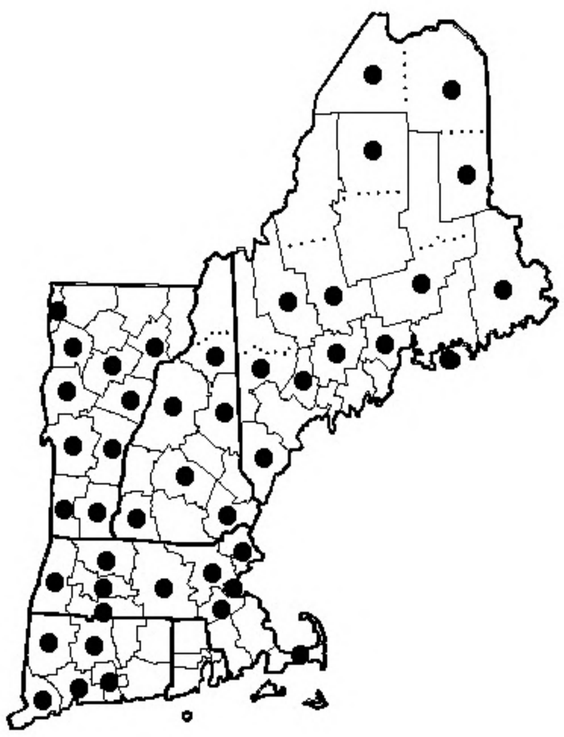
Crataegus X websteri



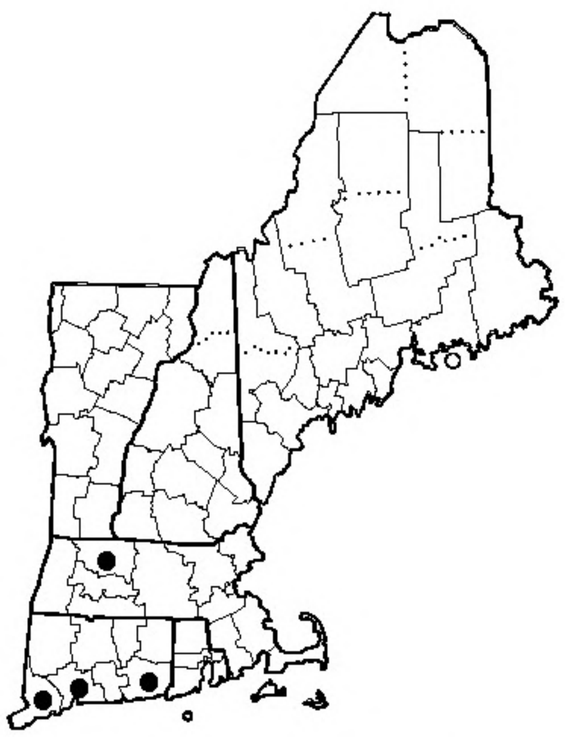
CYDONIA OBLONGA



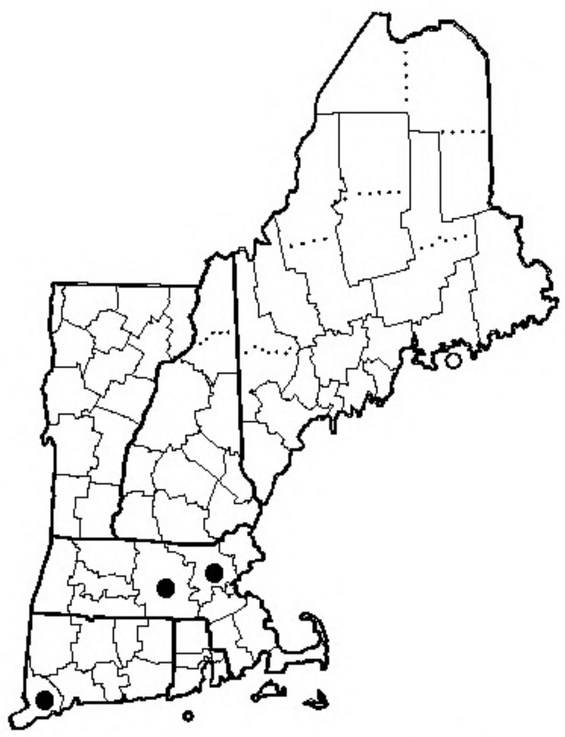
Dasiphora fruticosa



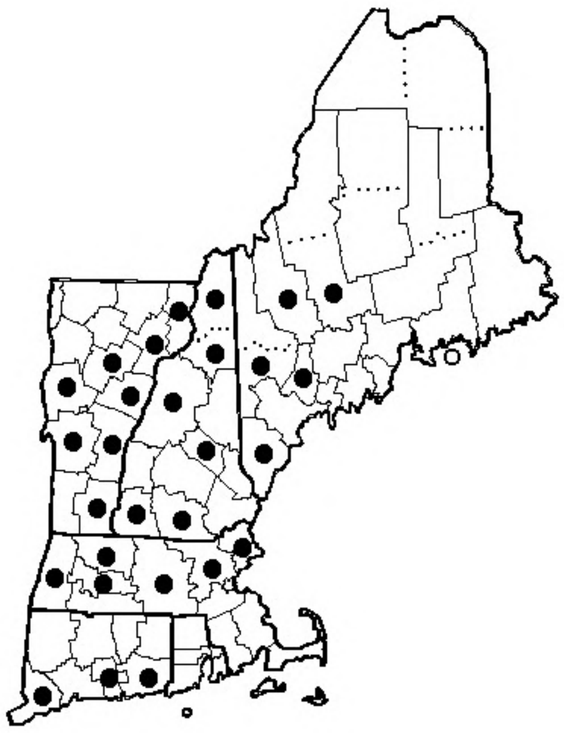
Drymocallis arguta



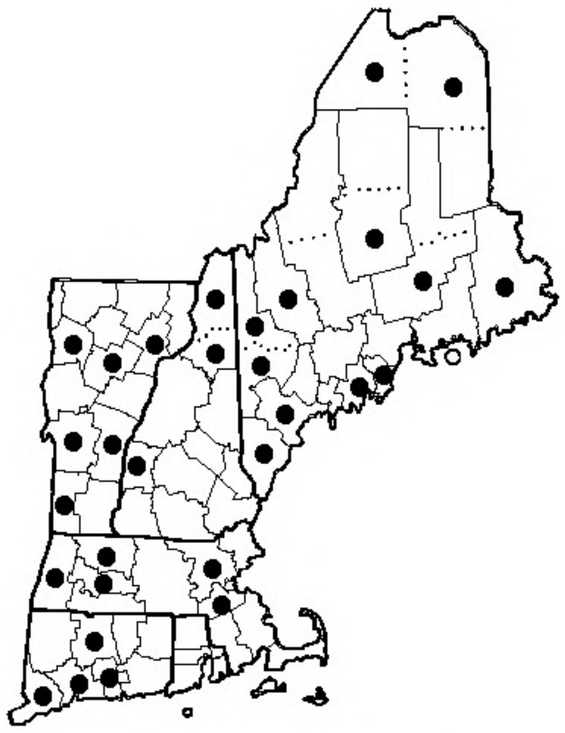
DUCHESNEA INDICA
var. *INDICA*



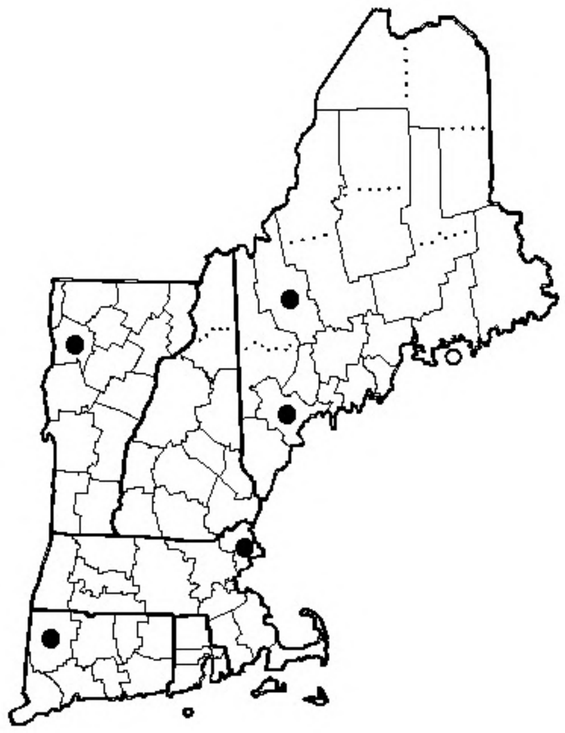
EXOCHORDA RACEMOSA



FILIPENDULA RUBRA

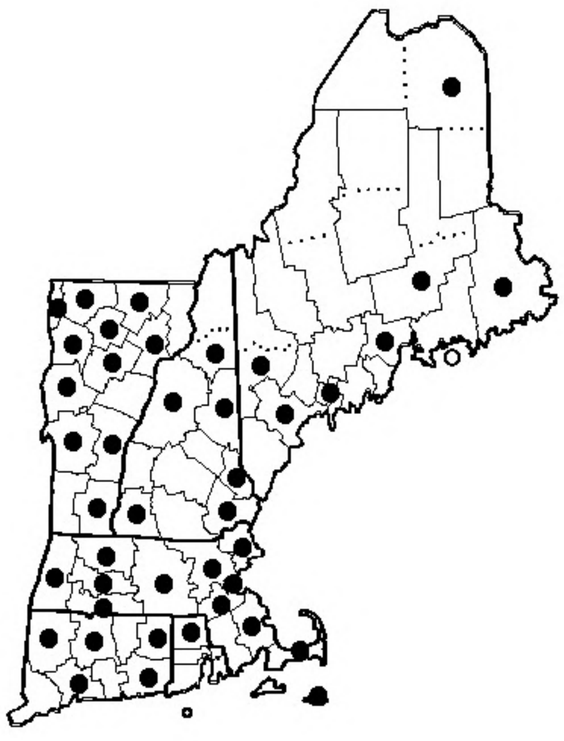


FILIPENDULA ULMARIA

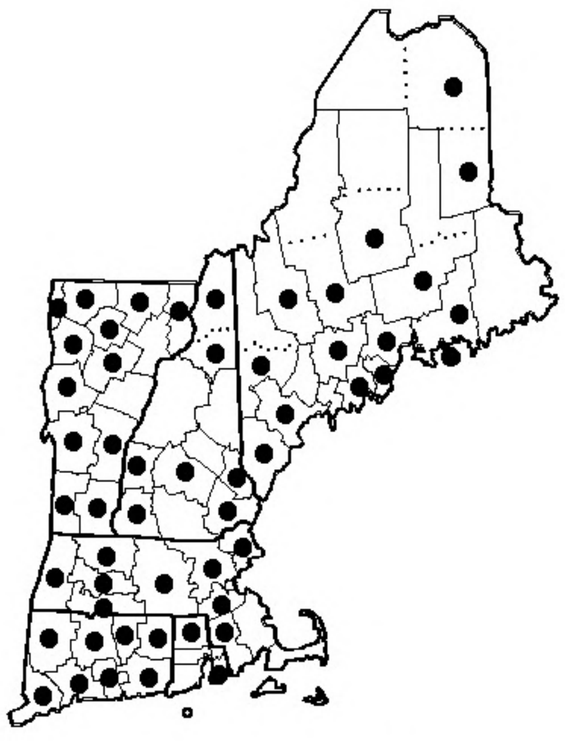


FILIPENDULA VULGARIS

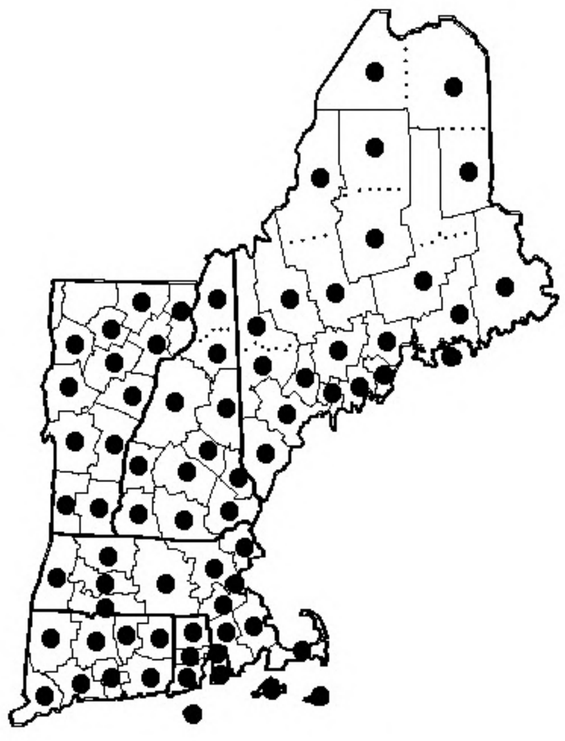
Figure 9. Distribution maps.



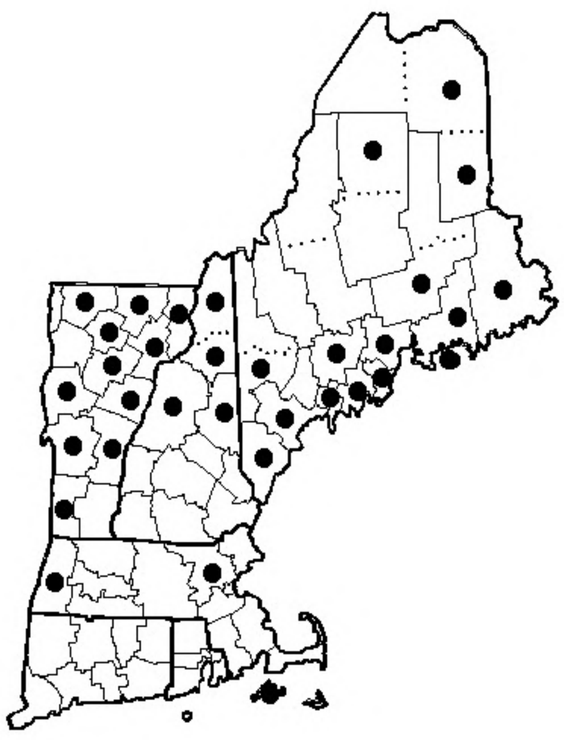
FRAGARIA VESCA
subsp. *VESCA*



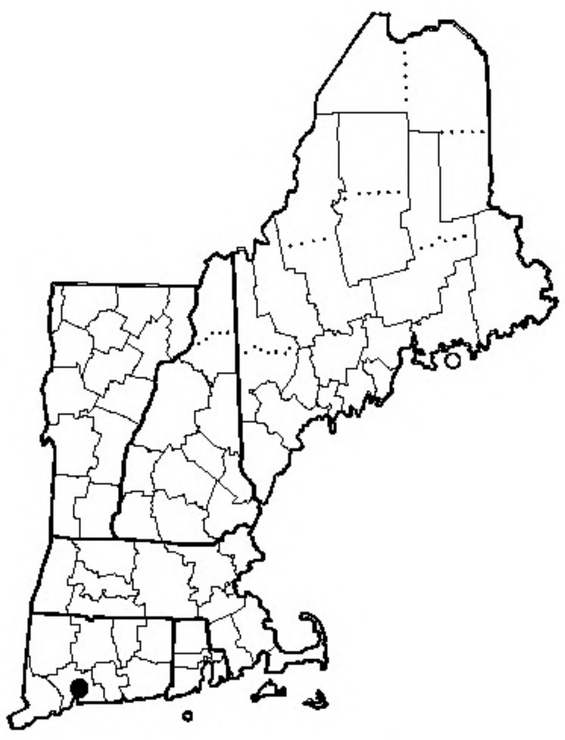
Fragaria vesca
subsp. *americana*



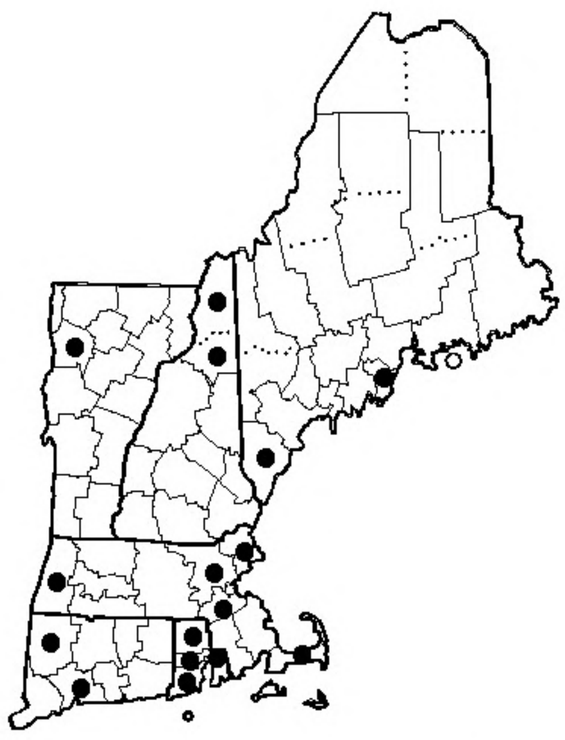
Fragaria virginiana
subsp. *virginiana*



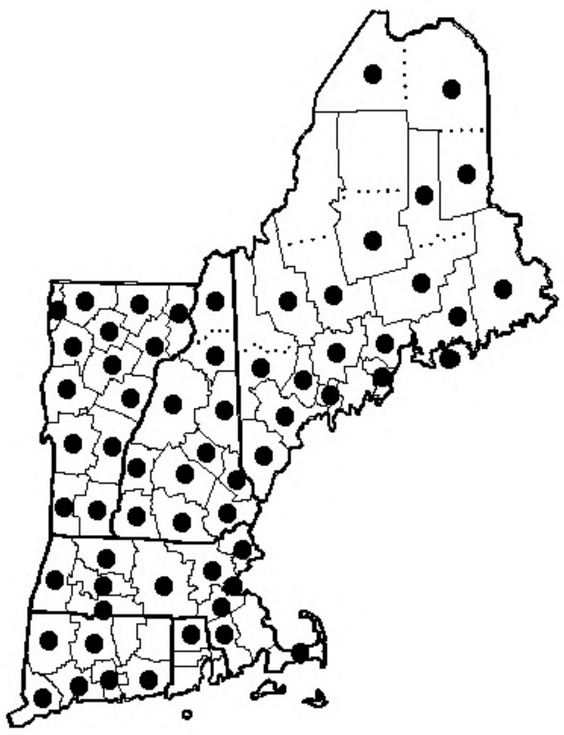
Fragaria virginiana
subsp. *glauca*



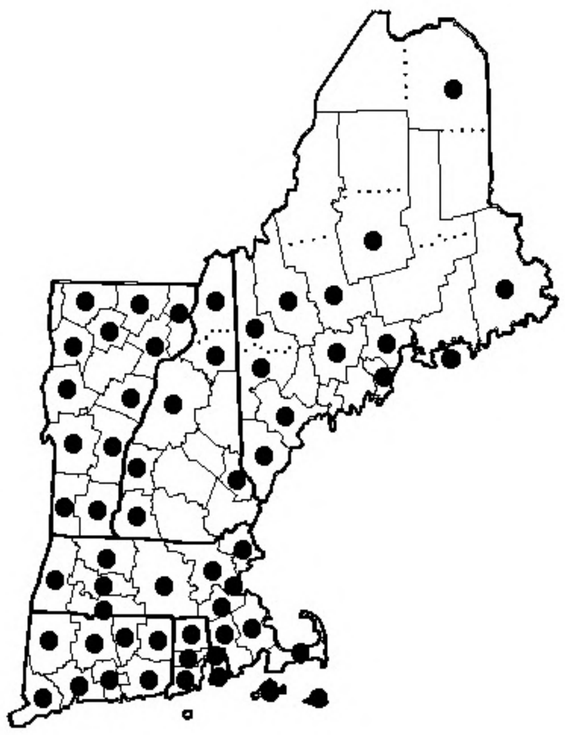
FRAGARIA VIRGINIANA
subsp. *GRAYANA*



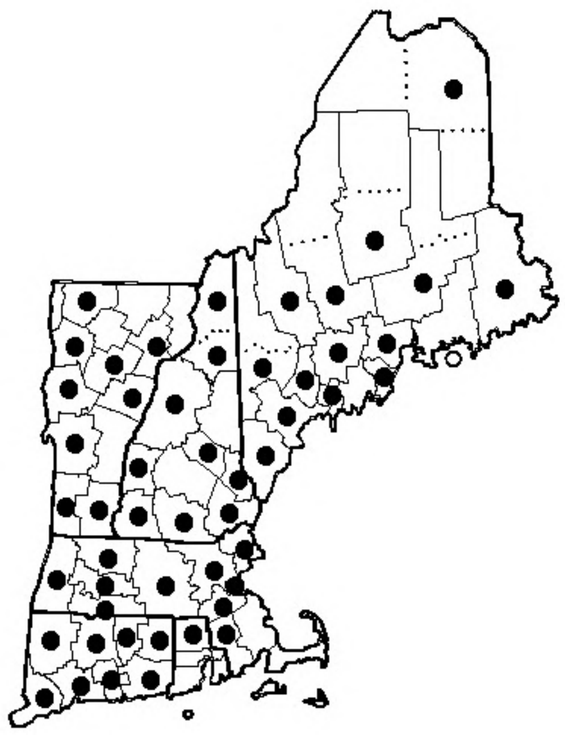
FRAGARIA XANANASSA



Geum aleppicum

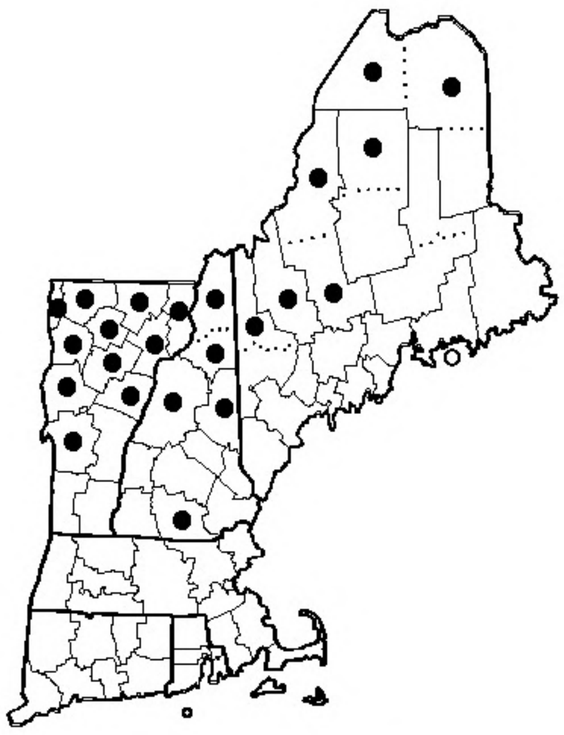


Geum canadense

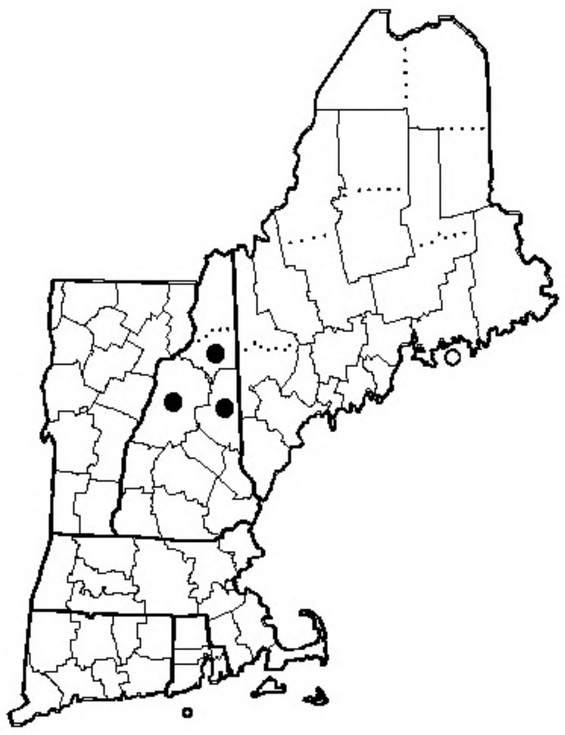


Geum laciniatum

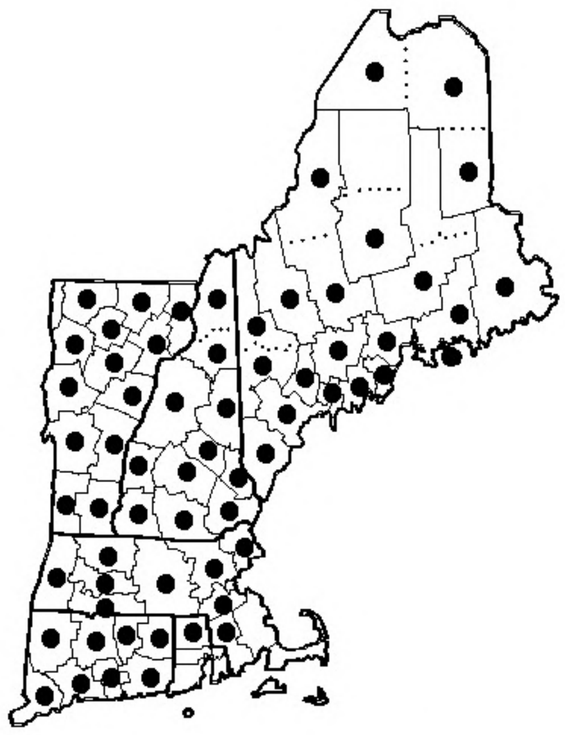
Figure 10. Distribution maps.



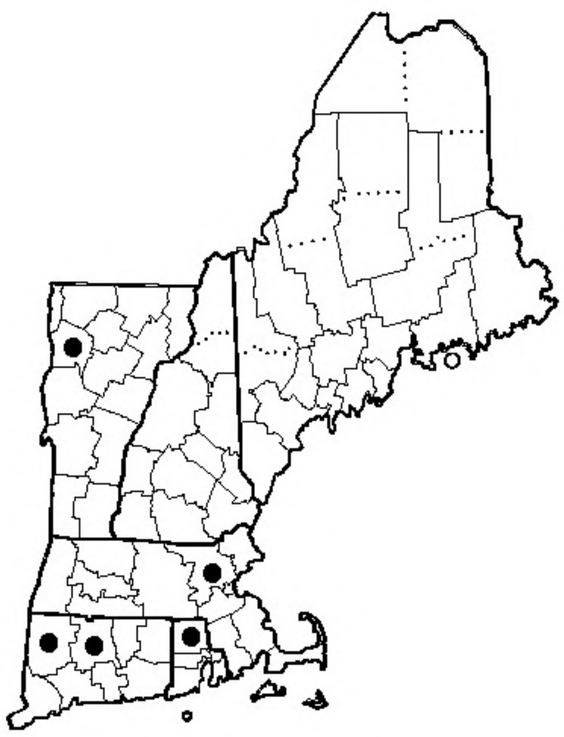
Geum macrophyllum
var. *macrophyllum*



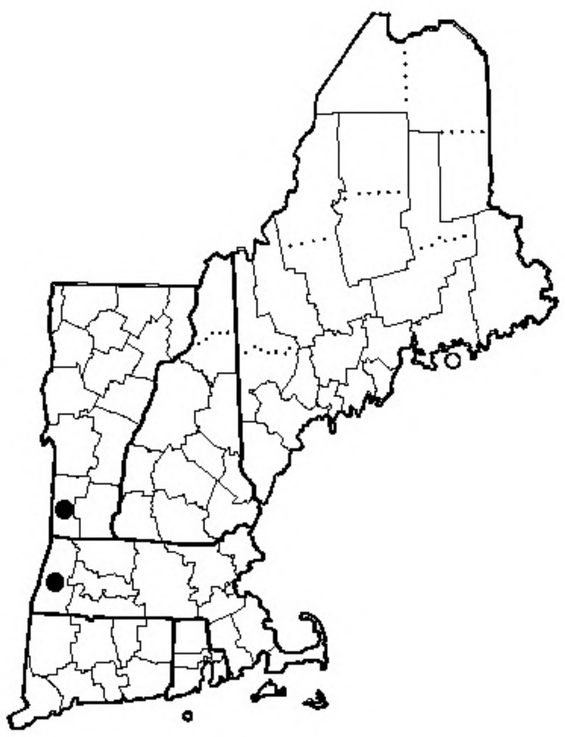
Geum peckii



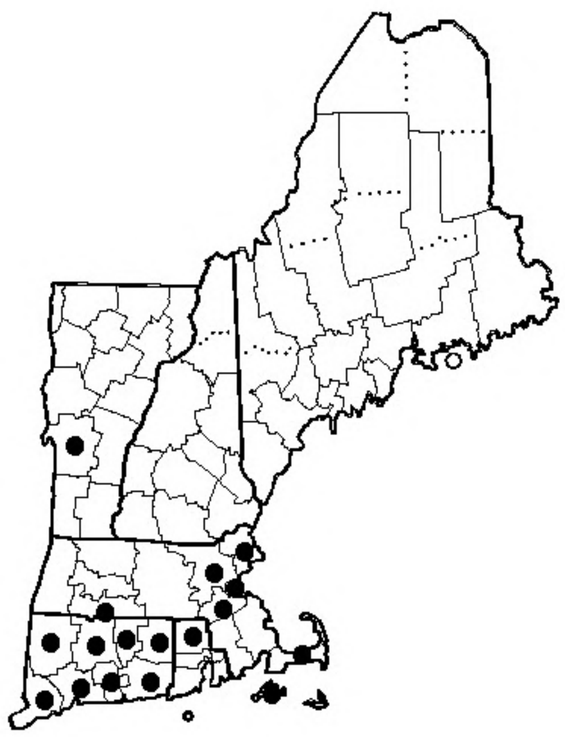
Geum rivale



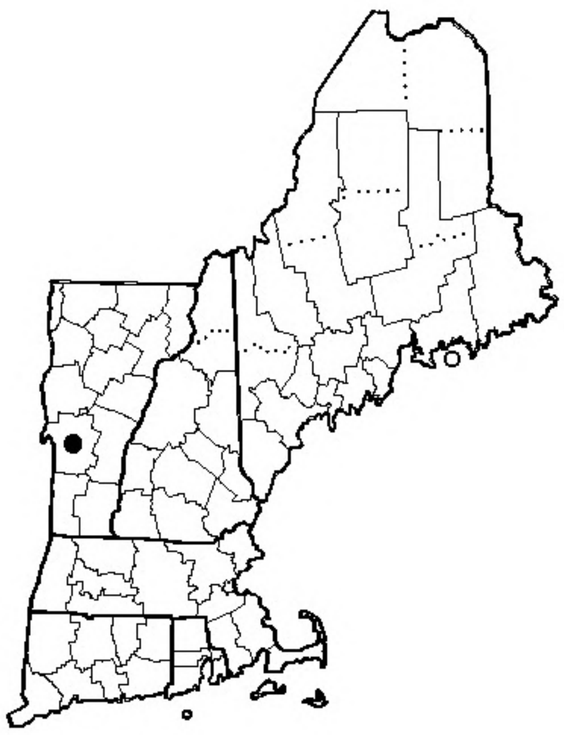
GEUM URBANUM



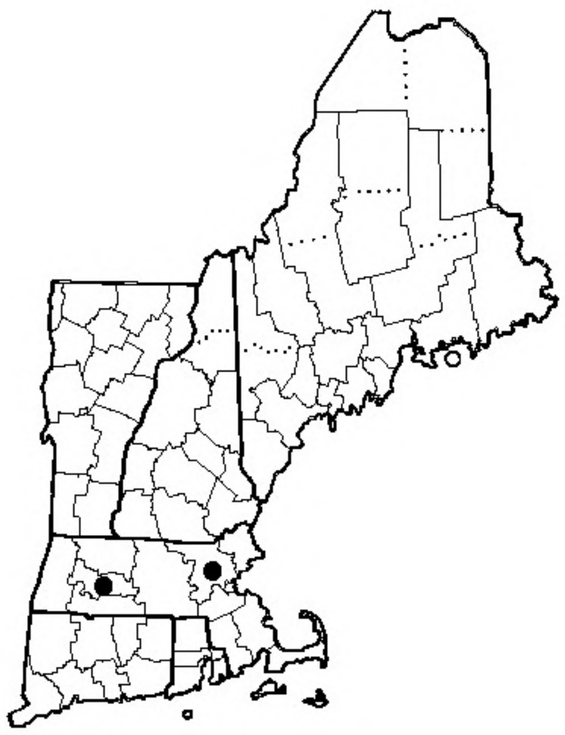
GEUM VERNUM



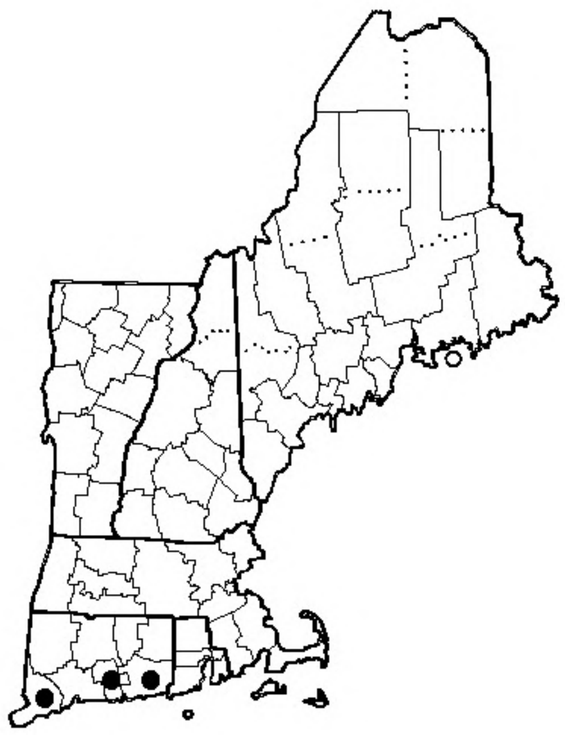
Geum virginianum



Geum X *pulchrum*

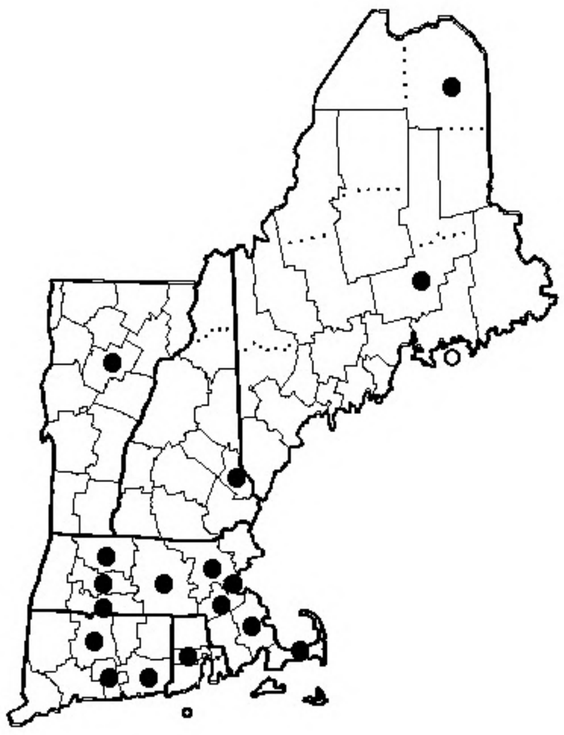


GILLENIA TRIFOLIATA

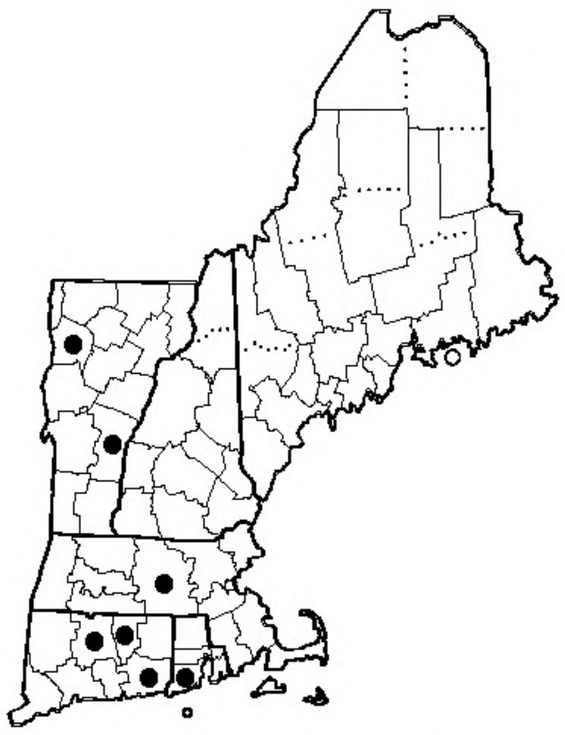


KERRIA JAPONICA

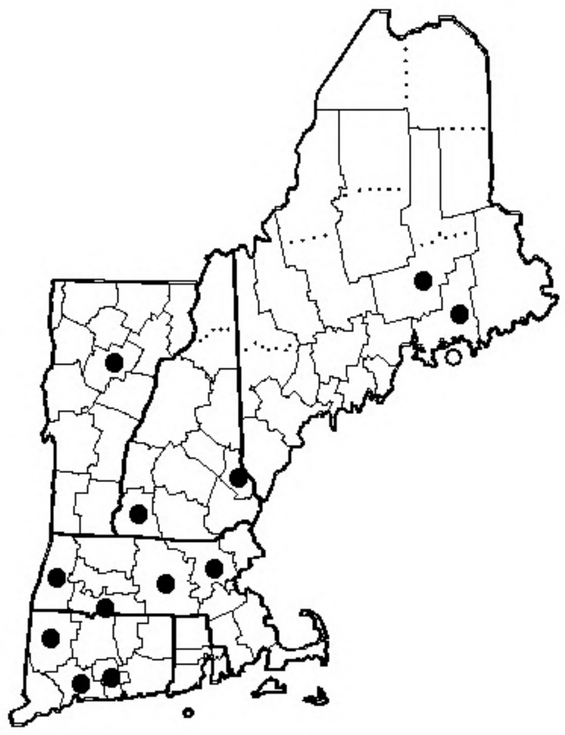
Figure 11. Distribution maps.



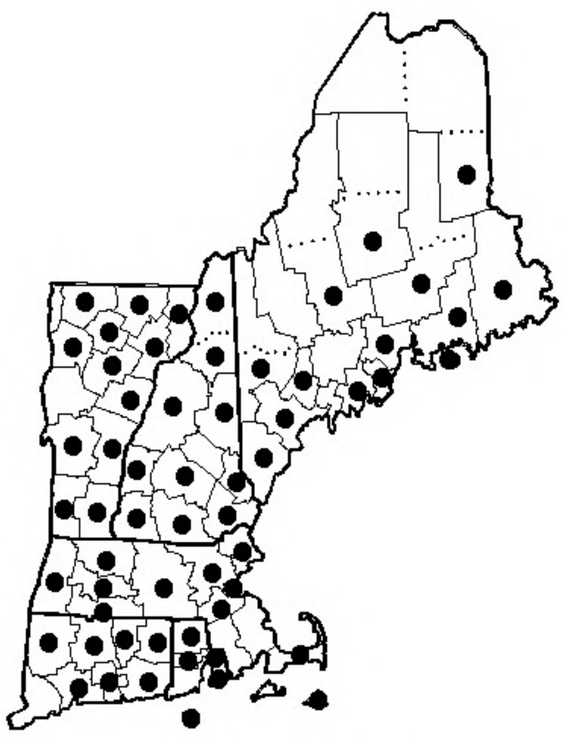
MALUS BACCATA



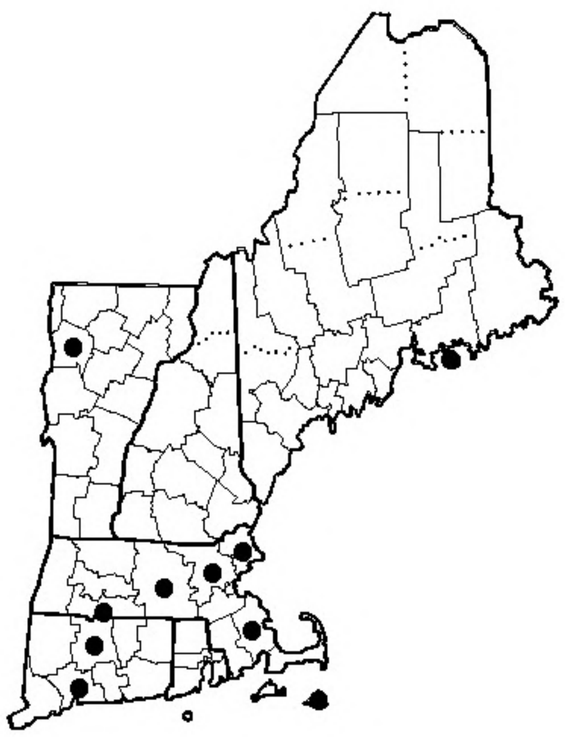
MALUS FLORIBUNDA



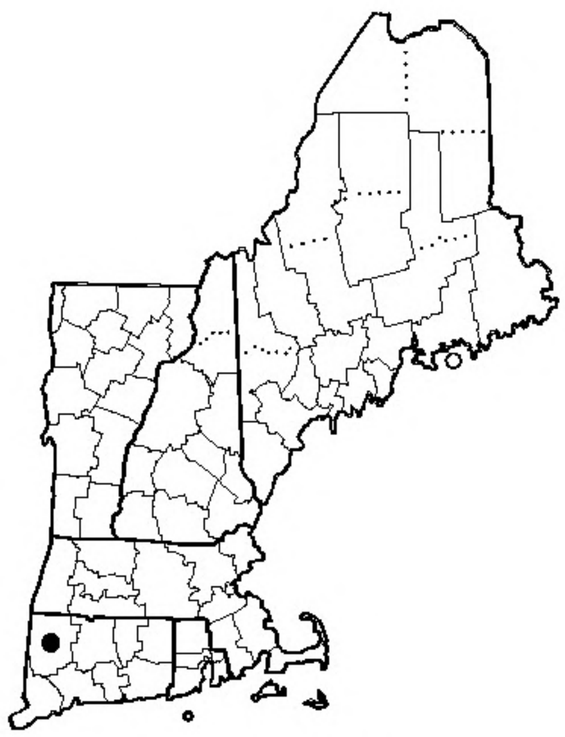
MALUS PRUNIFOLIA



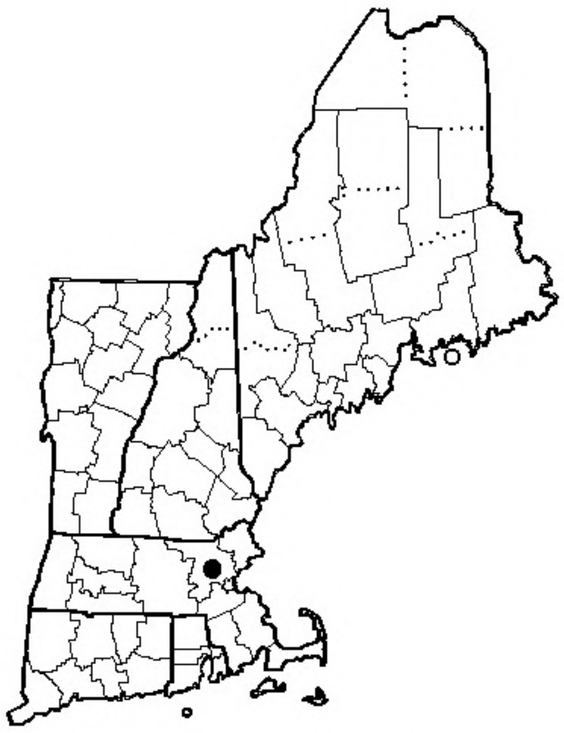
MALUS PUMILA



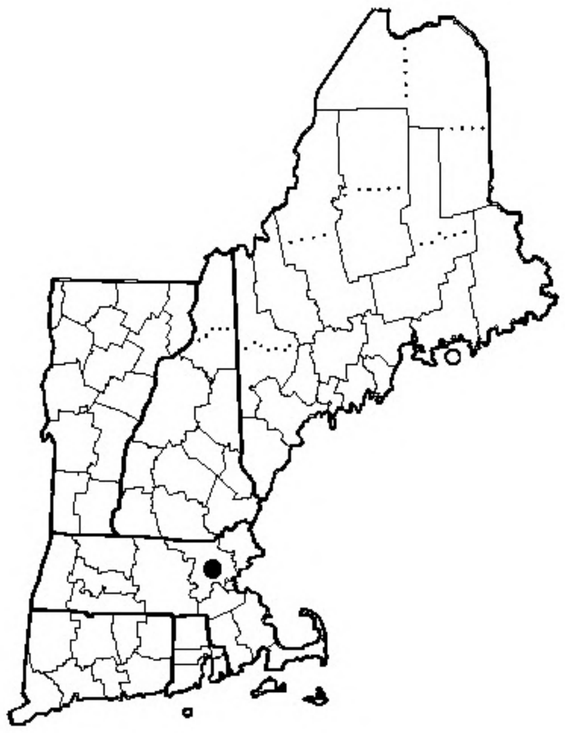
MALUS SIEBOLDII



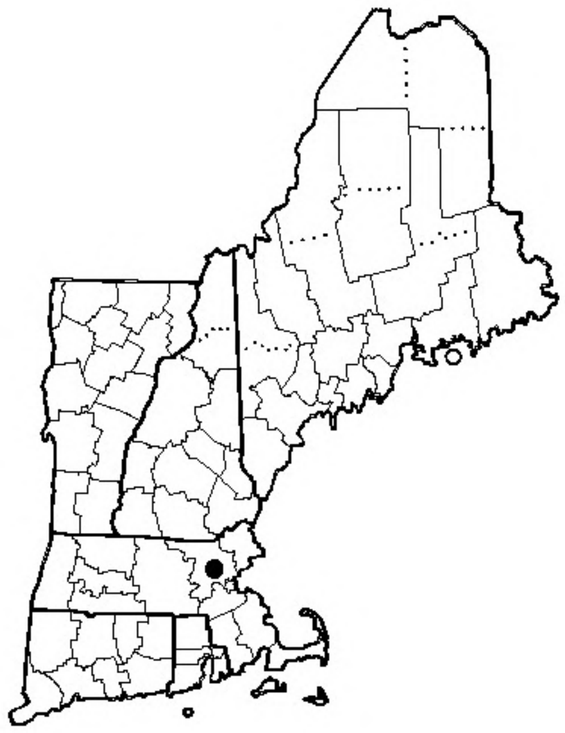
MALUS X *ADSTRINGENS*



MALUS X *ARNOLDIANA*

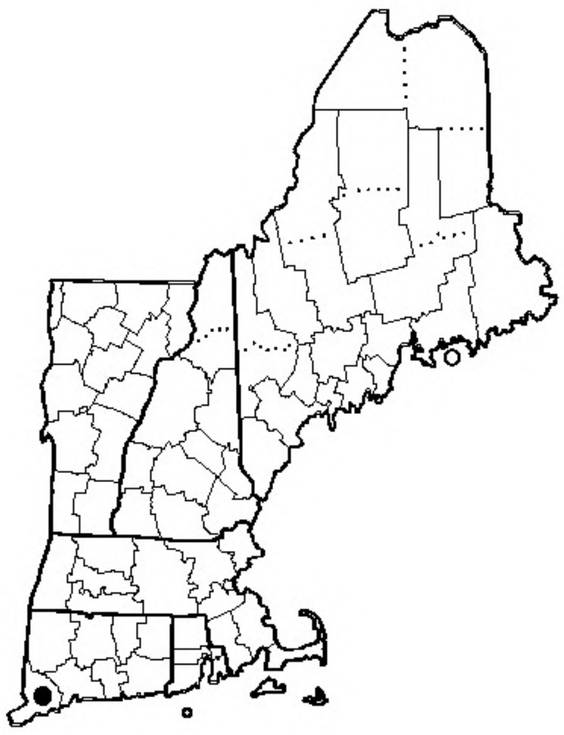


MALUS X *MAGDEBURGENSIS*

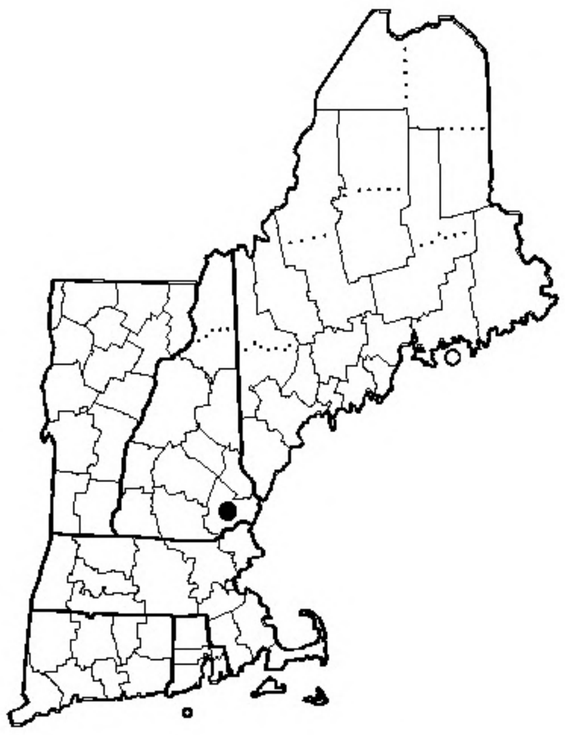


MALUS X *MICROMALUS*

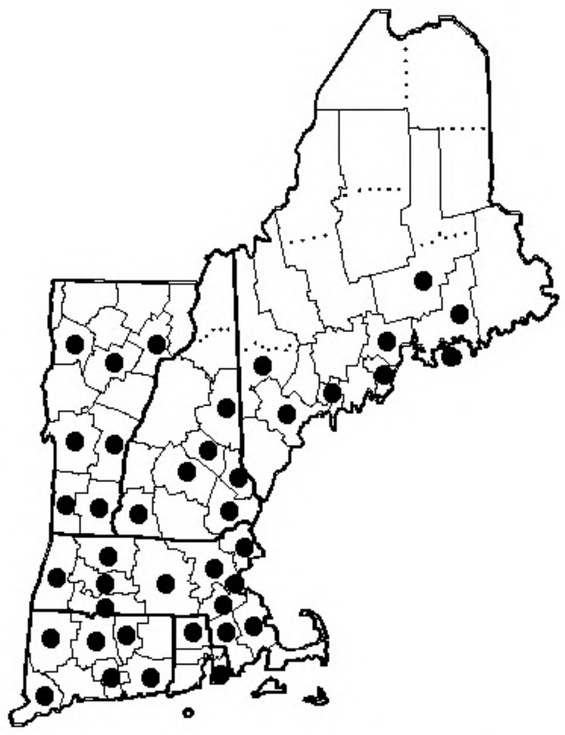
Figure 12. Distribution maps.



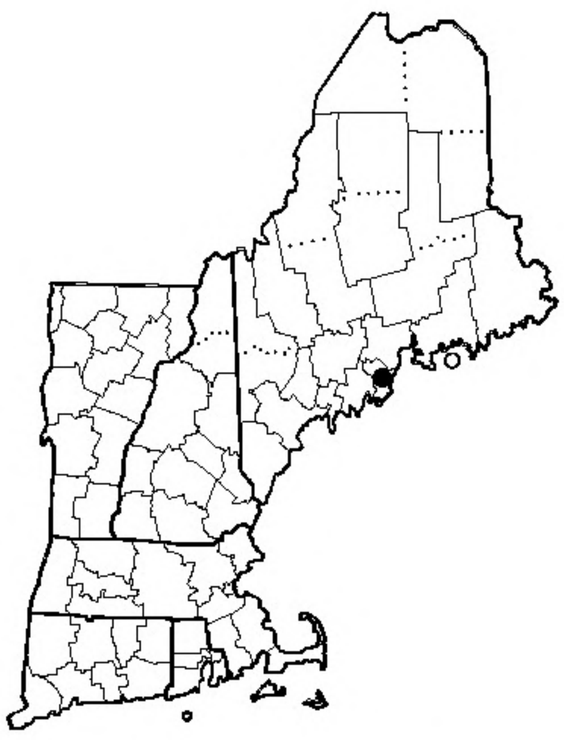
MALUS X SOULARDII



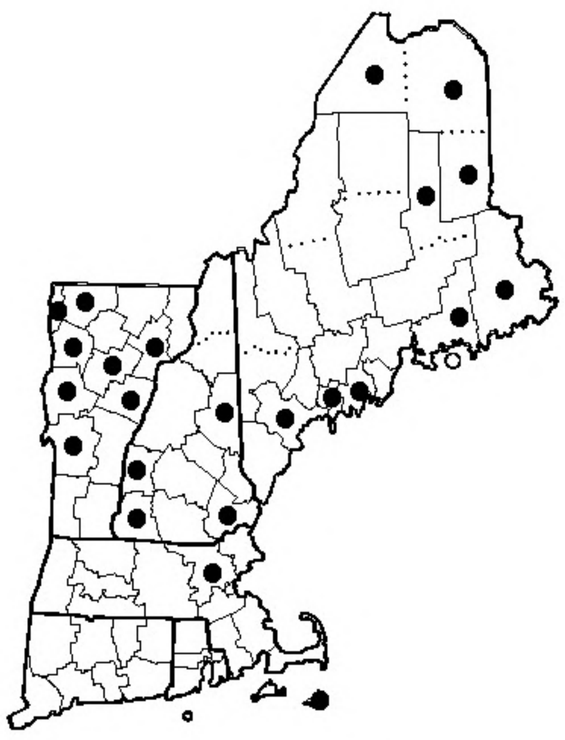
PHOTINIA VILLOSA



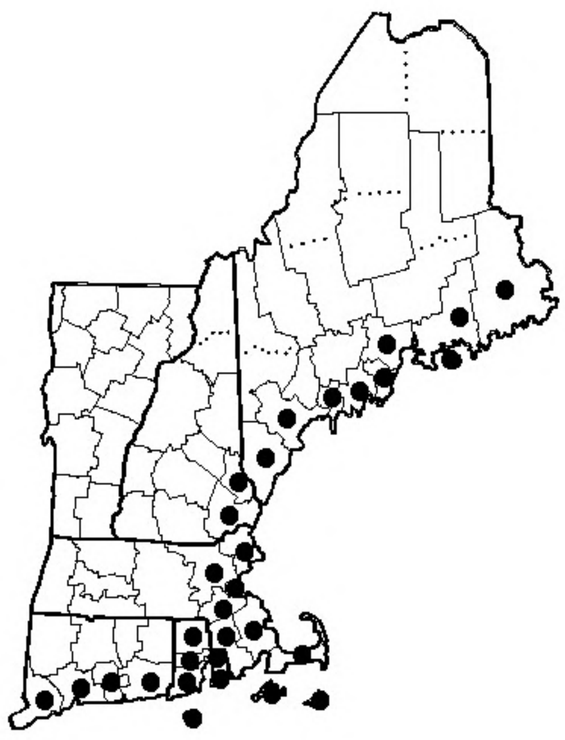
PHYSOCARPUS OPULIFOLIUS



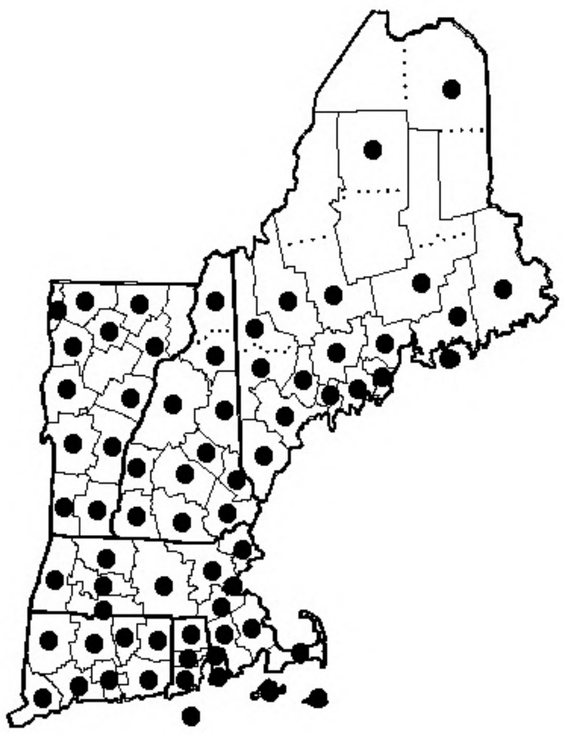
POTENTILLA ANGLICA



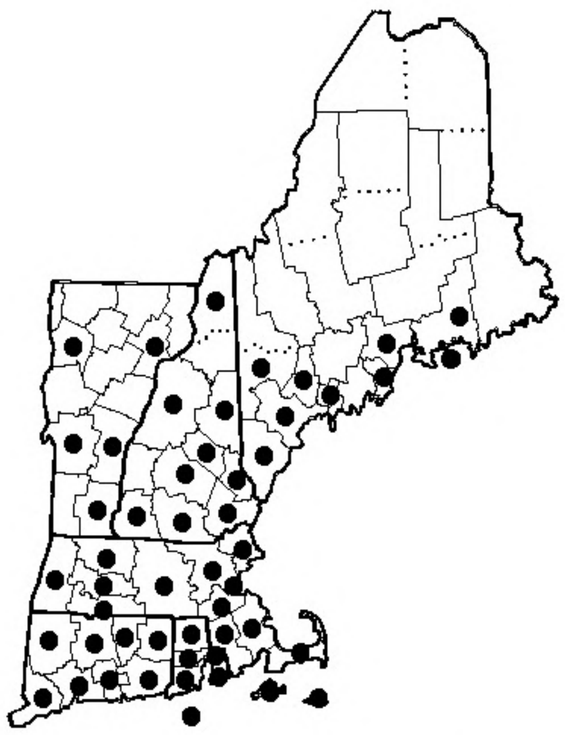
Potentilla anserina
subsp. *anserina*



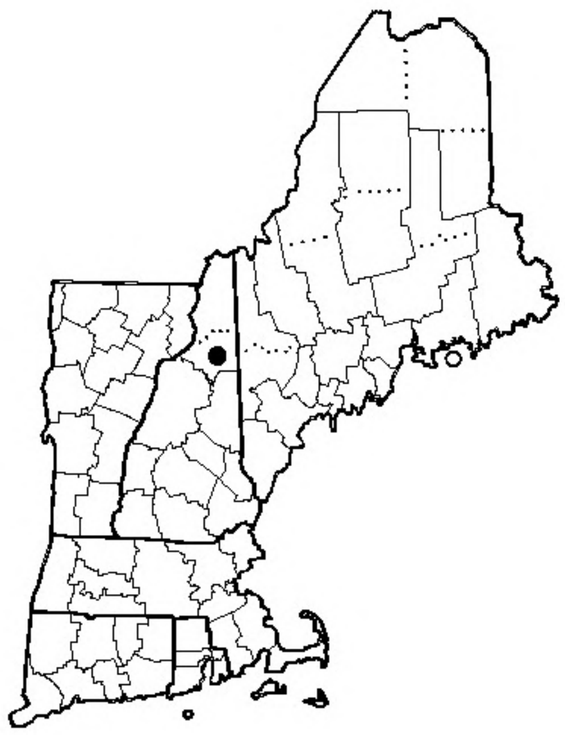
Potentilla anserina
subsp. *pacifica*



POTENTILLA ARGENTEA

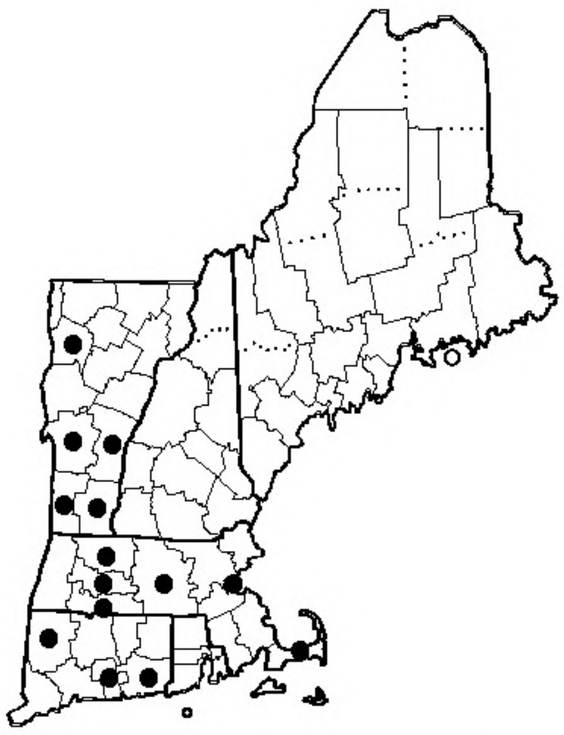


Potentilla canadensis

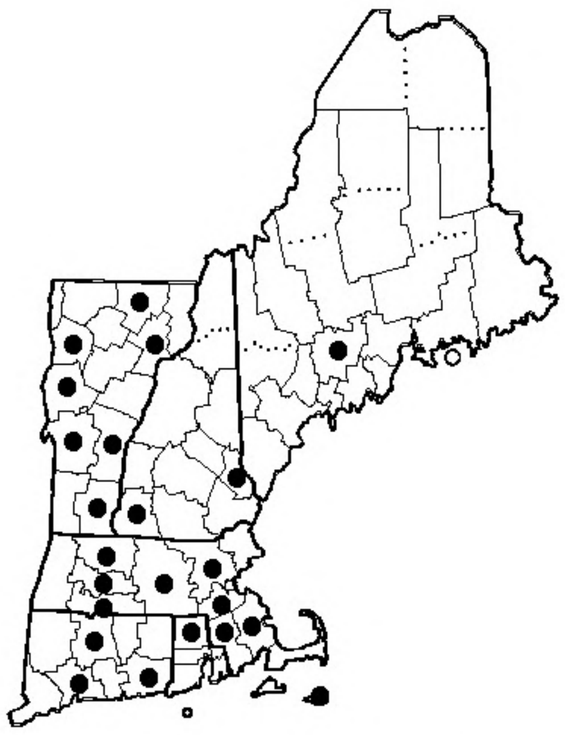


POTENTILLA GRACILIS
var. *GRACILIS*

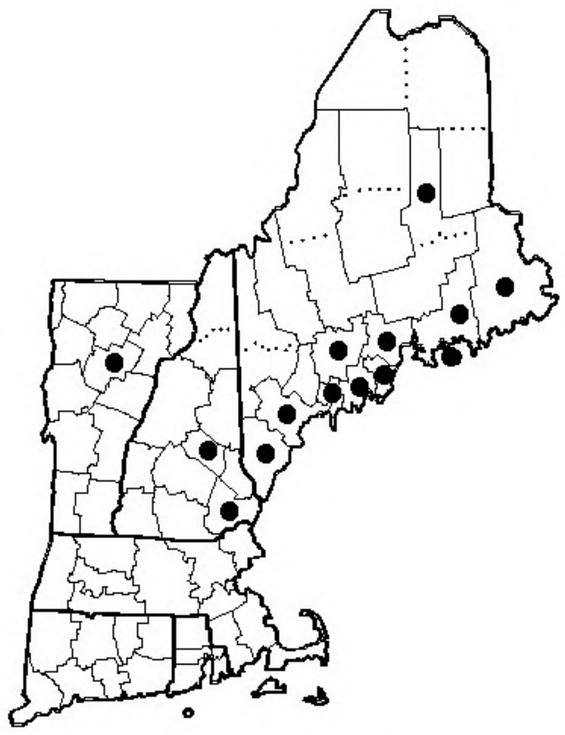
Figure 13. Distribution maps.



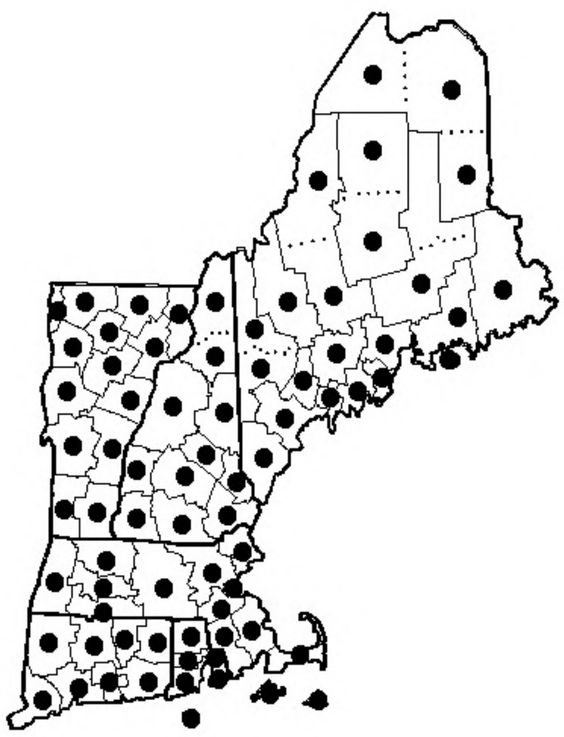
POTENTILLA INCLINATA



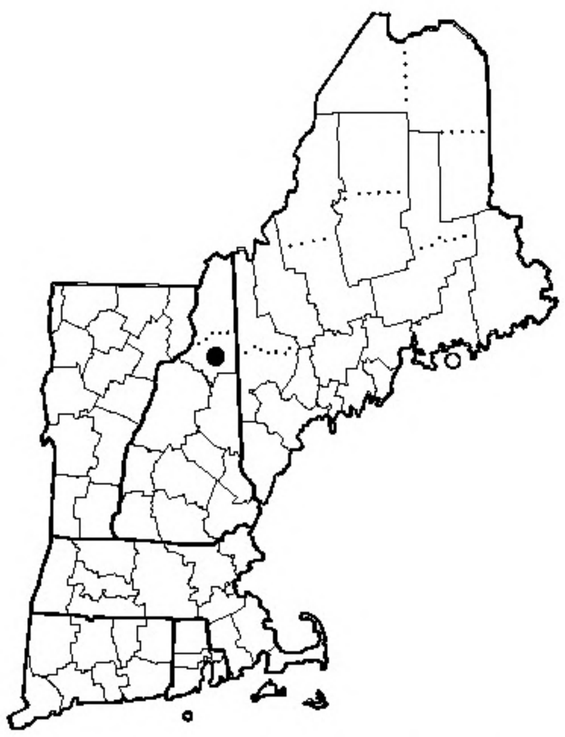
POTENTILLA INTERMÆDIA



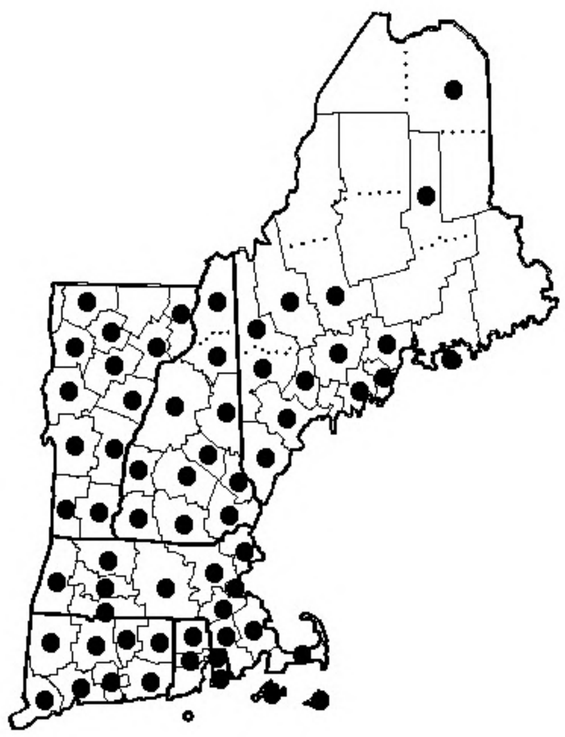
Potentilla litoralis



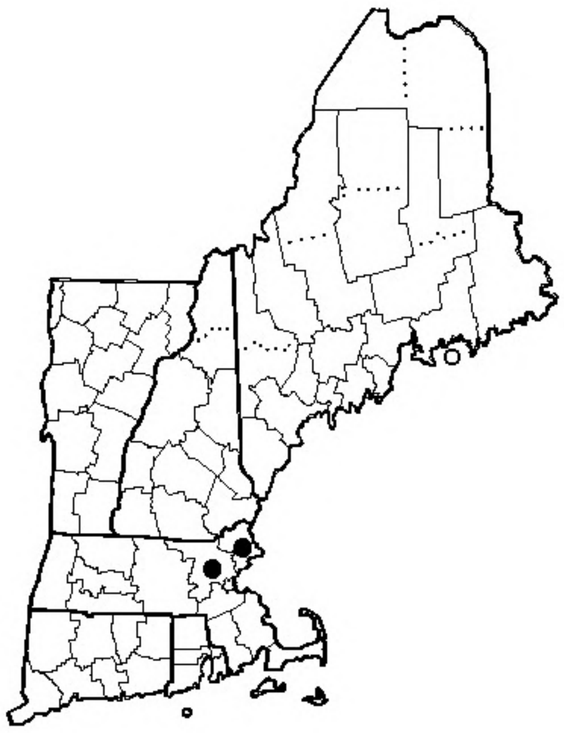
Potentilla norvegica



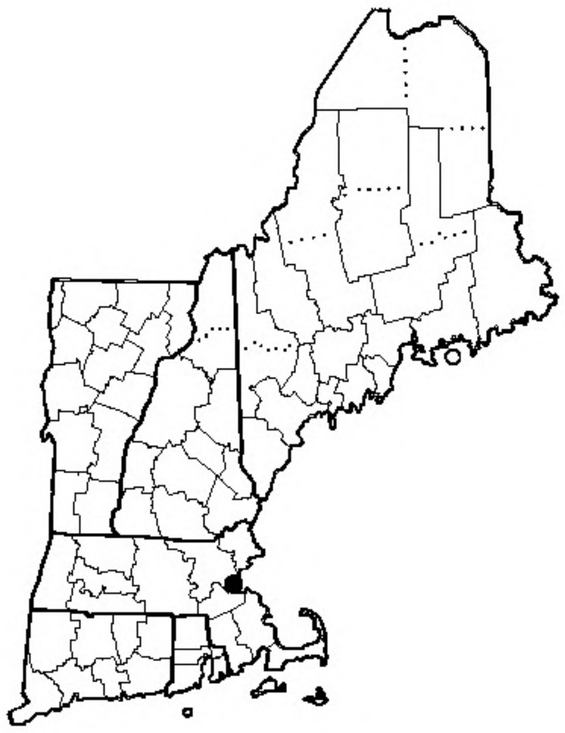
POTENTILLA PULCHERRIMA



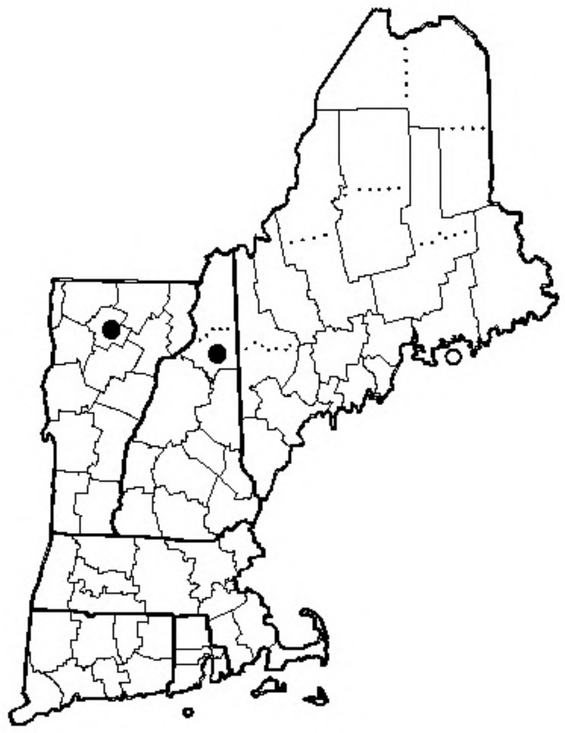
POTENTILLA RECTA



POTENTILLA REPTANS

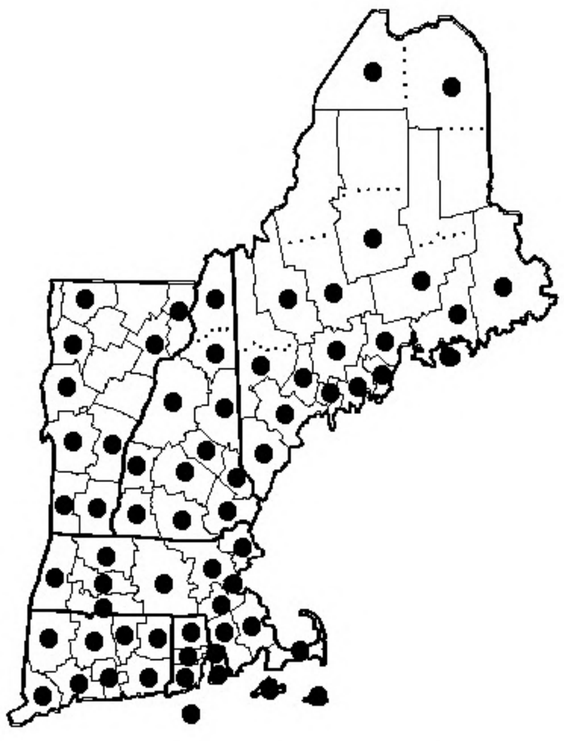


POTENTILLA RIVALIS

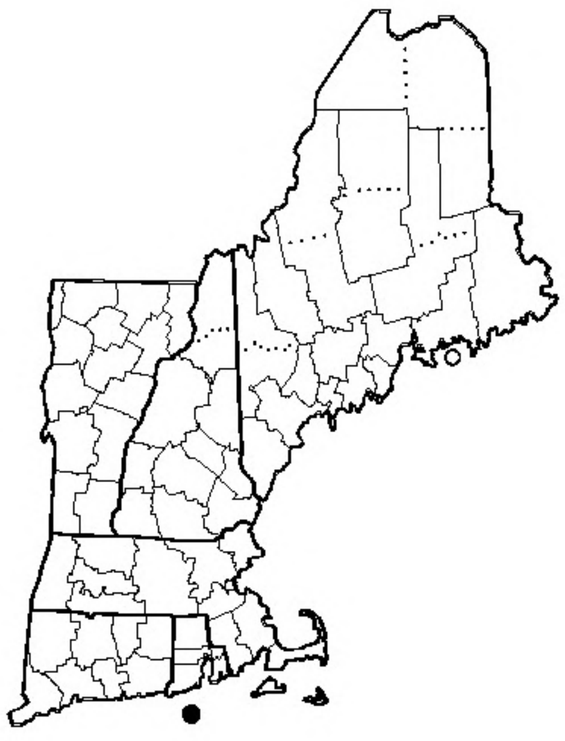


Potentilla robbinsiana

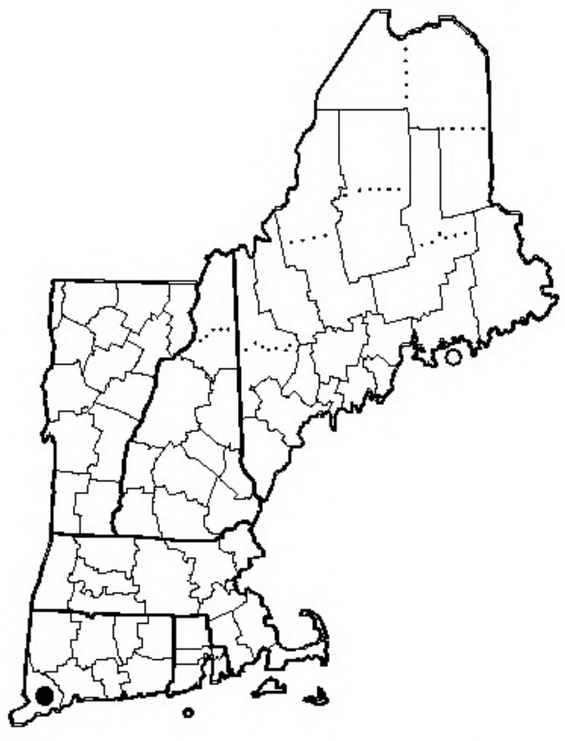
Figure 14. Distribution maps.



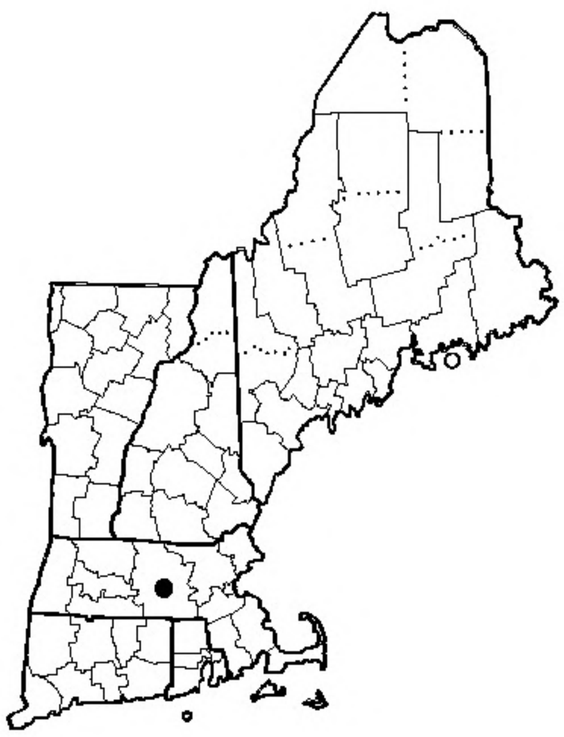
Potentilla simplex



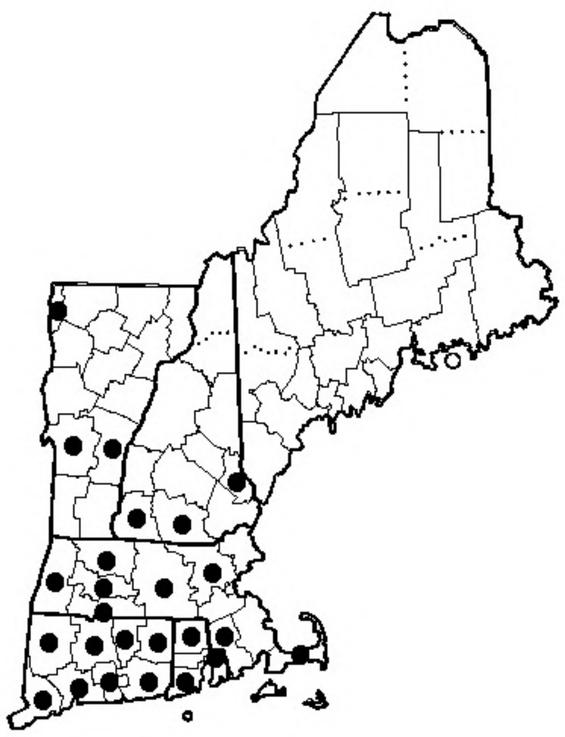
POTENTILLA THURINGIACA



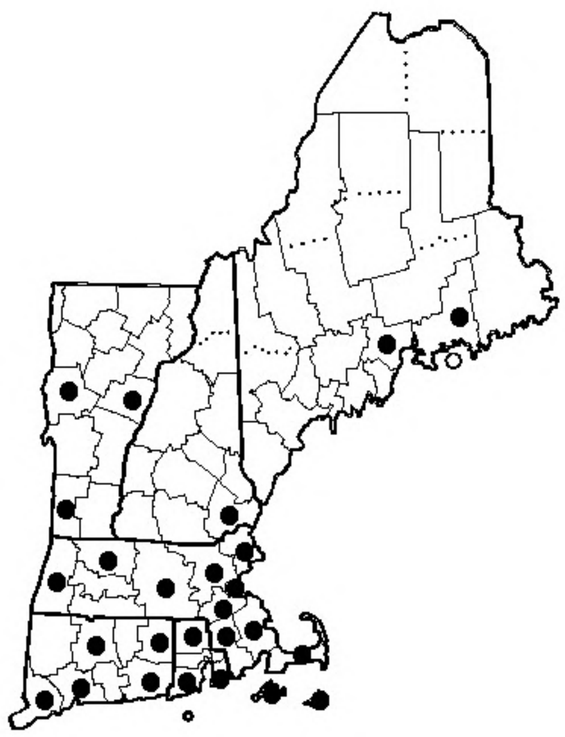
POTENTILLA VERNA



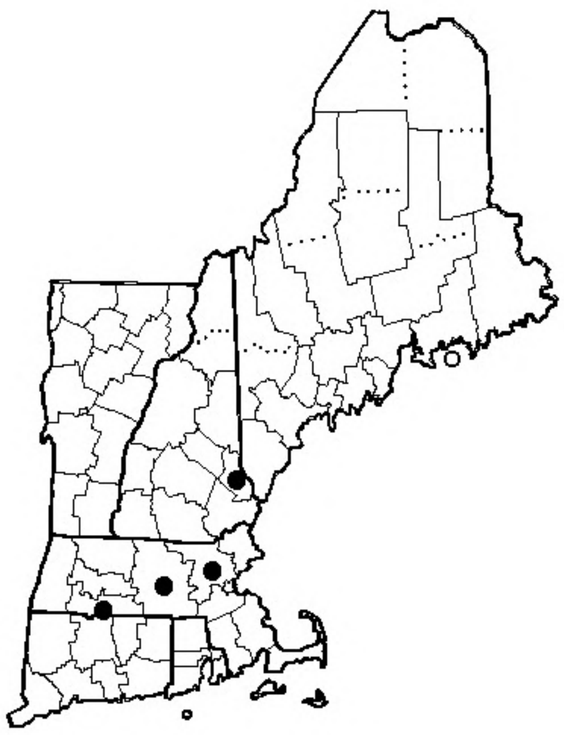
POTERIDIUM ANNUUM



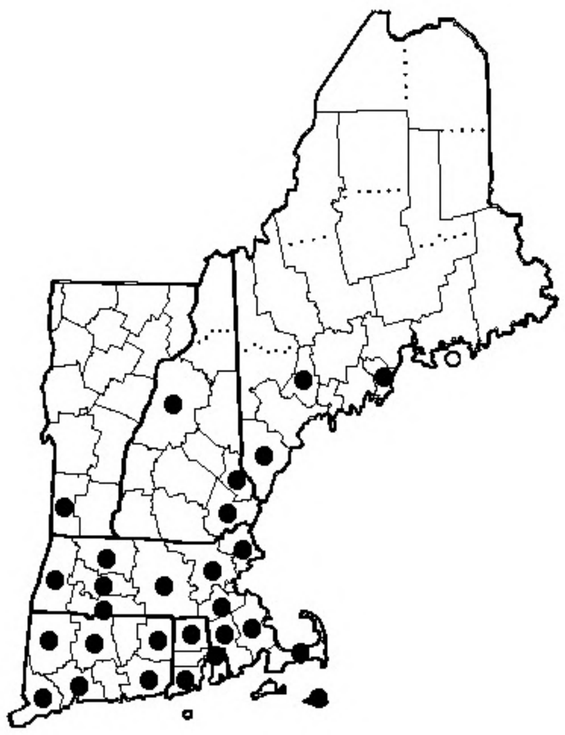
Prunus americana



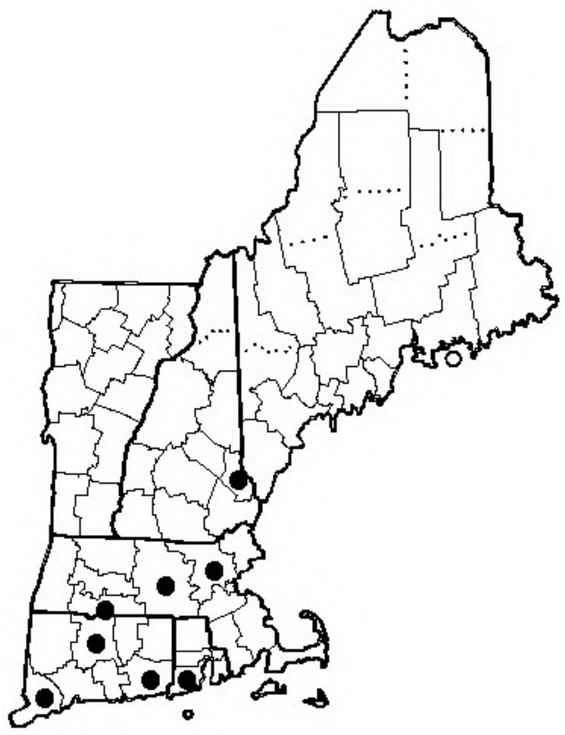
PRUNUS AVIUM



PRUNUS CERASIFERA

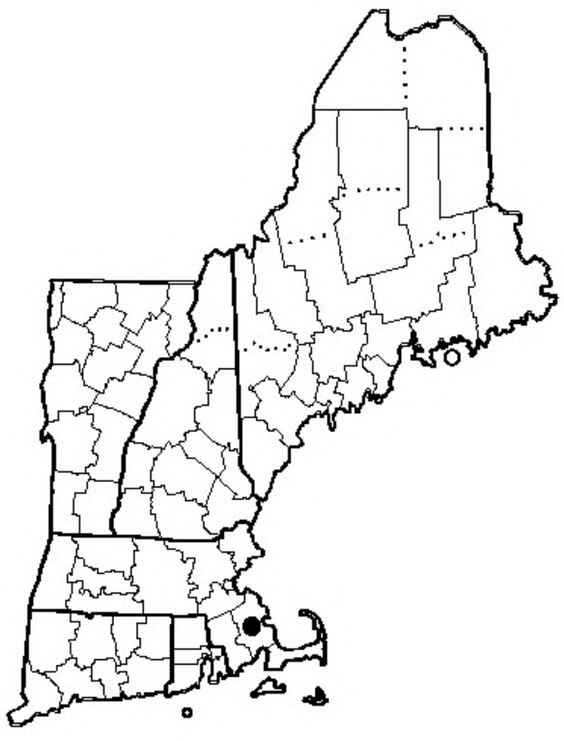


PRUNUS CERASUS

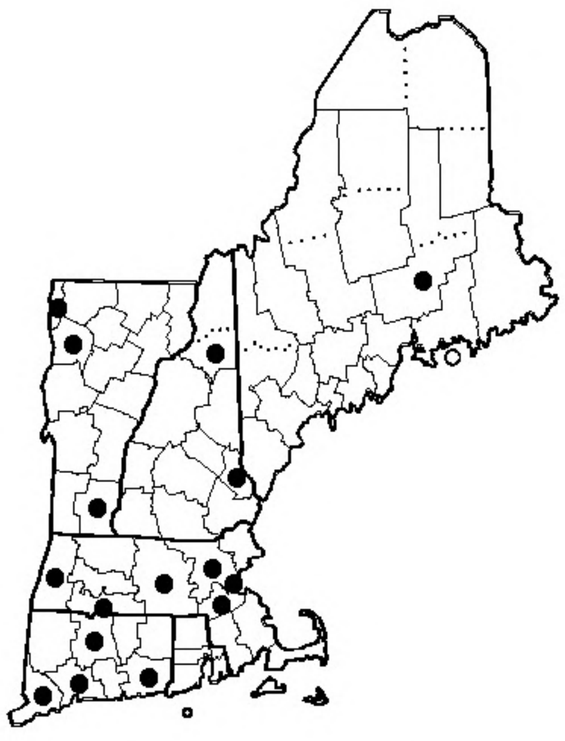


PRUNUS DOMESTICA

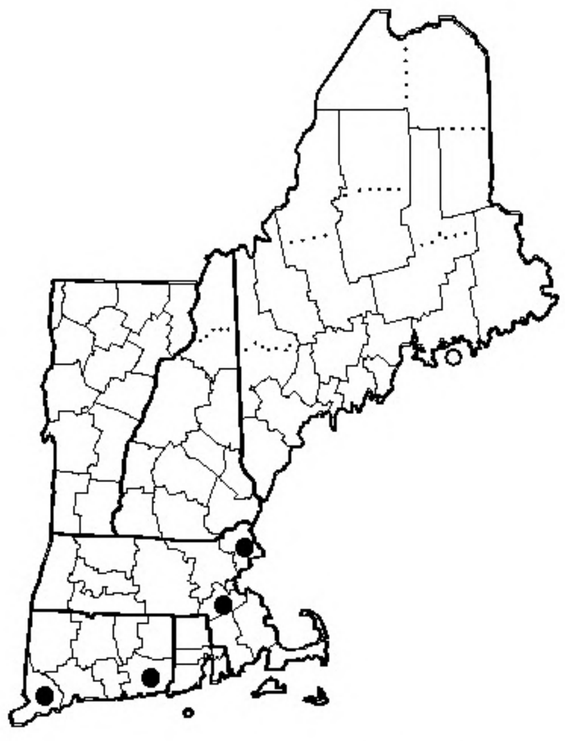
Figure 15. Distribution maps.



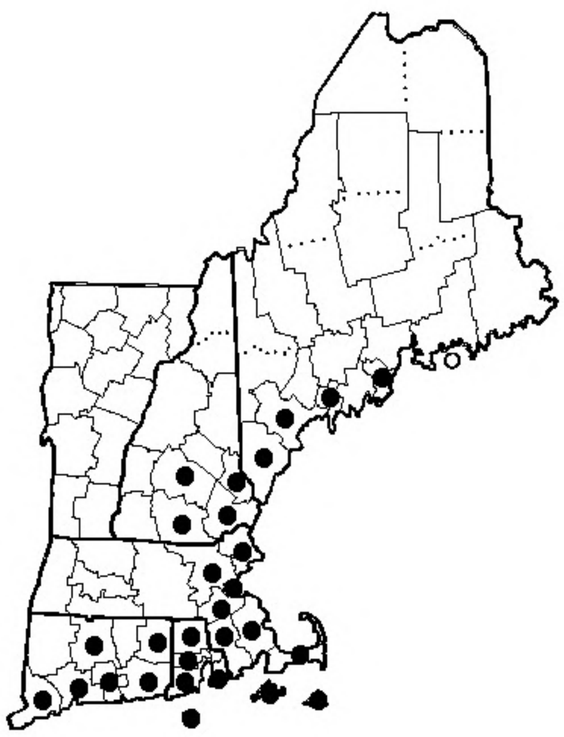
PRUNUS HORTULANA



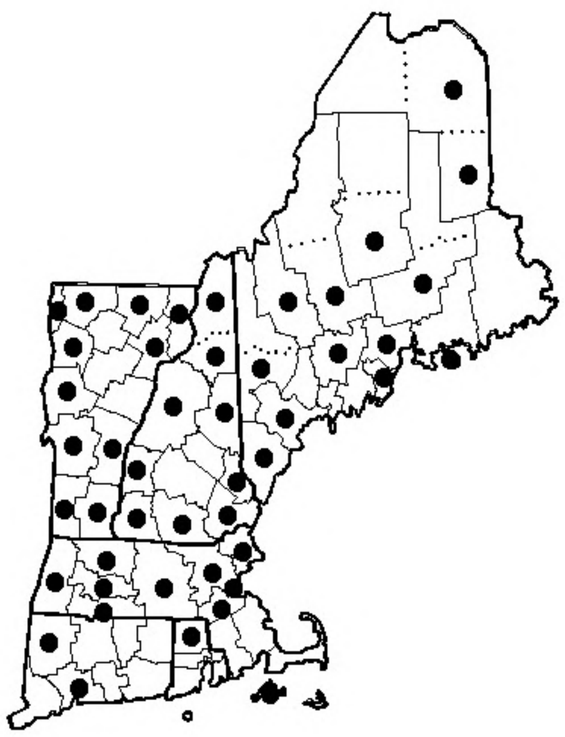
PRUNUS INSITITIA



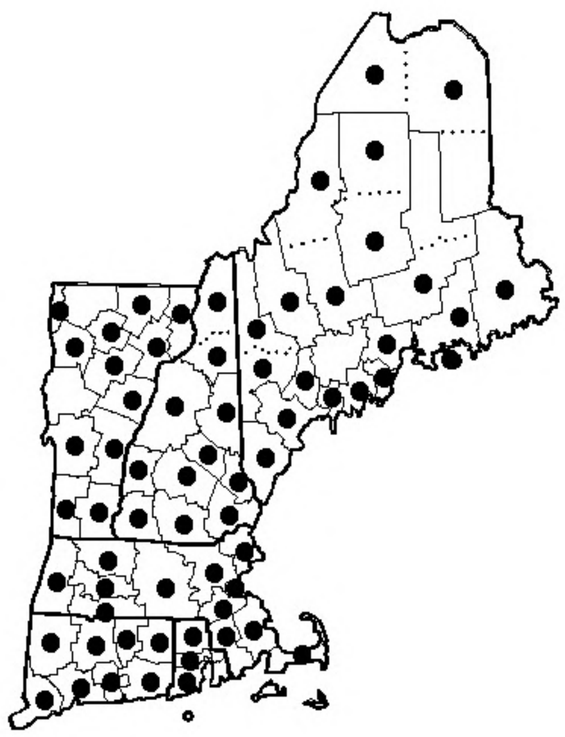
PRUNUS MAHALEB



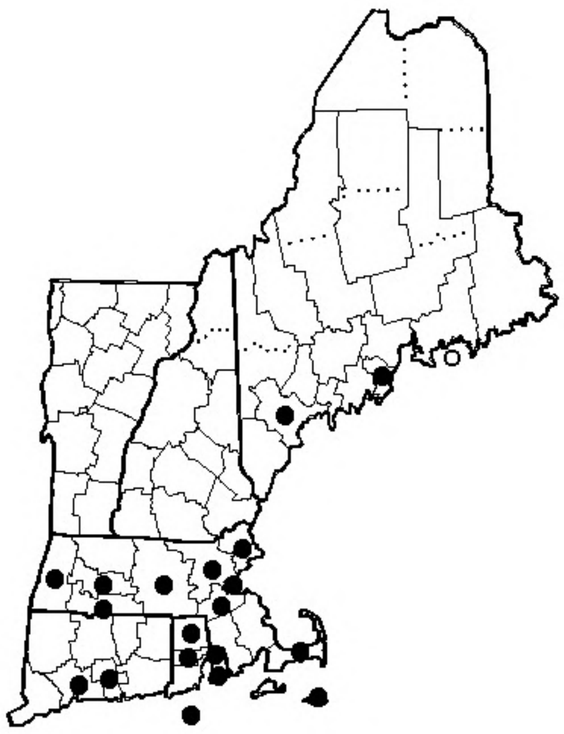
Prunus maritima



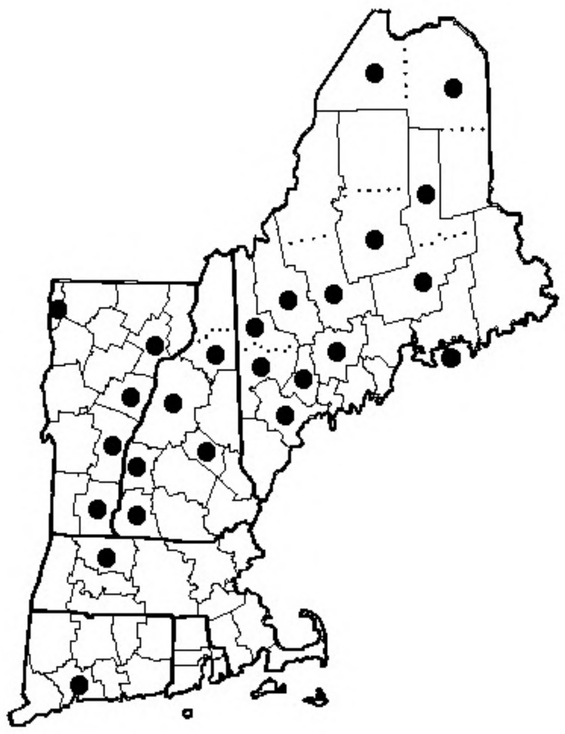
Prunus nigra



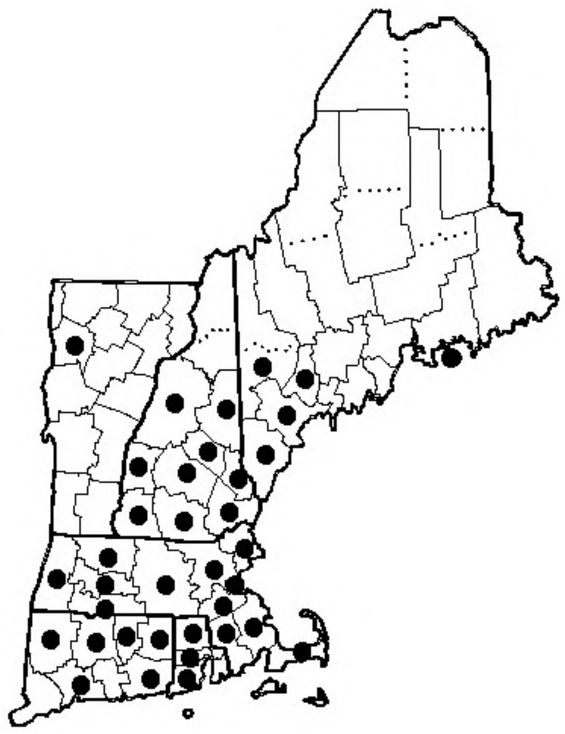
Prunus pensylvanica



PRUNUS PERSICA

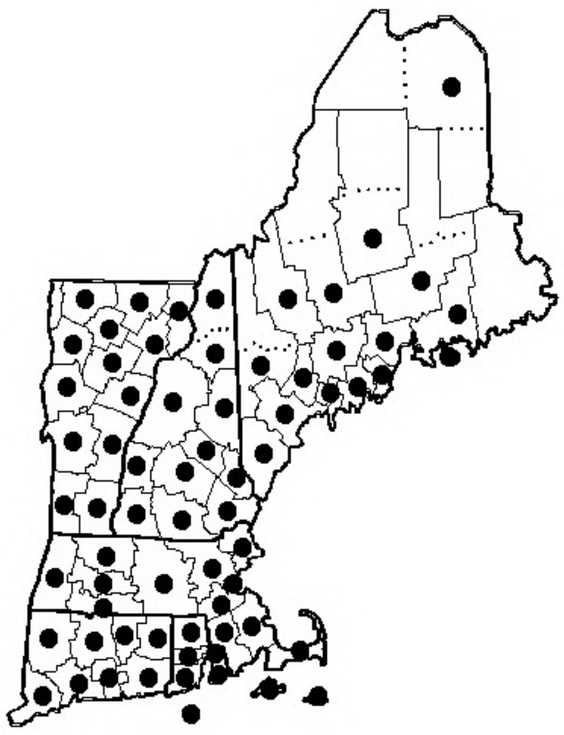


Prunus pumila
var. *depressa*

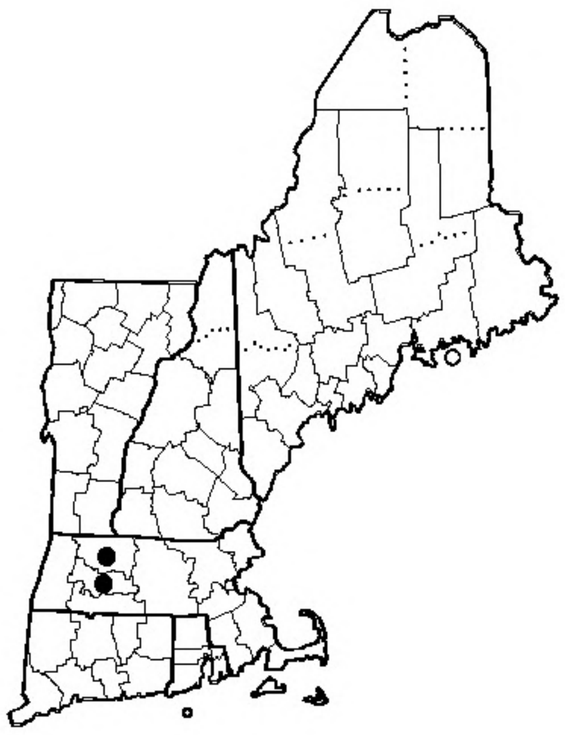


Prunus pumila
var. *susquehana*

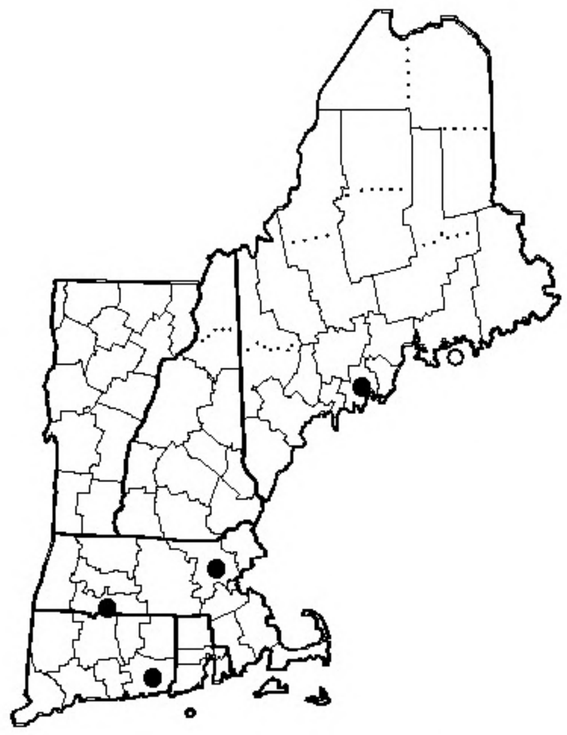
Figure 16. Distribution maps.



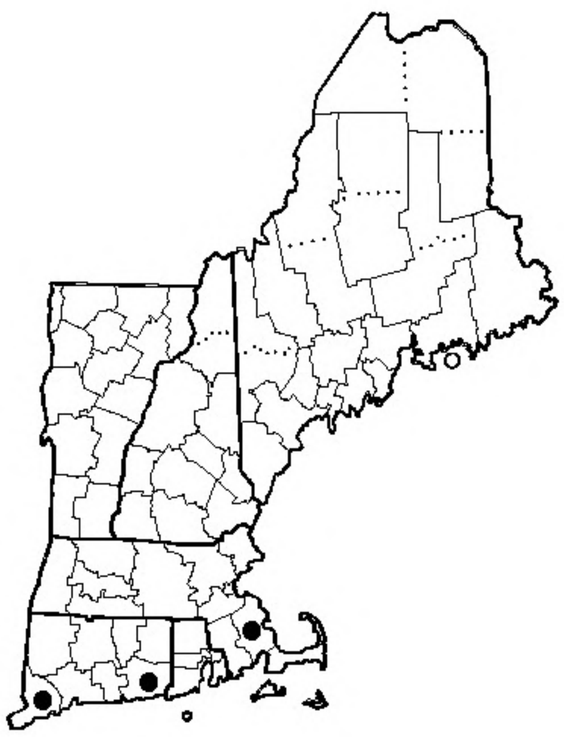
Prunus serotina
var. *serotina*



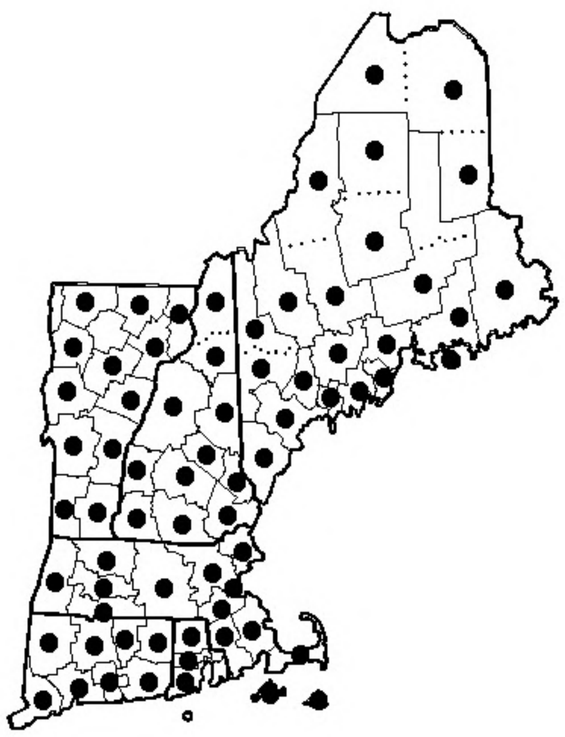
PRUNUS SERRULATA



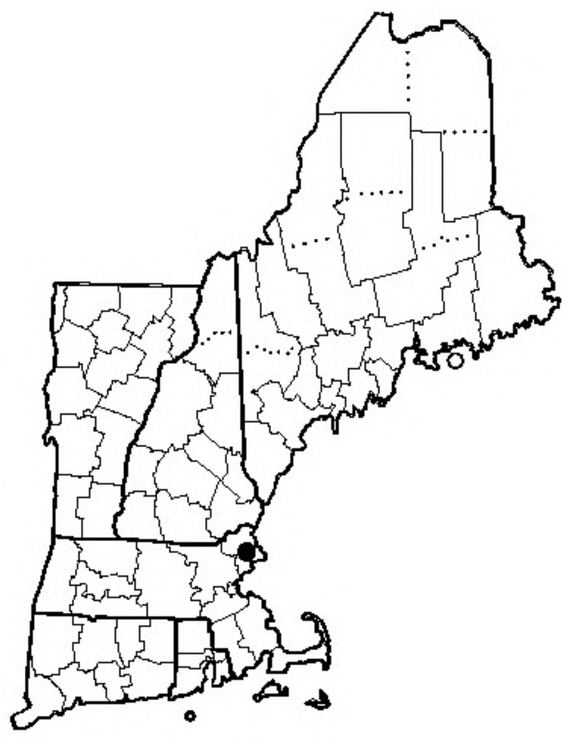
PRUNUS SPINOSA



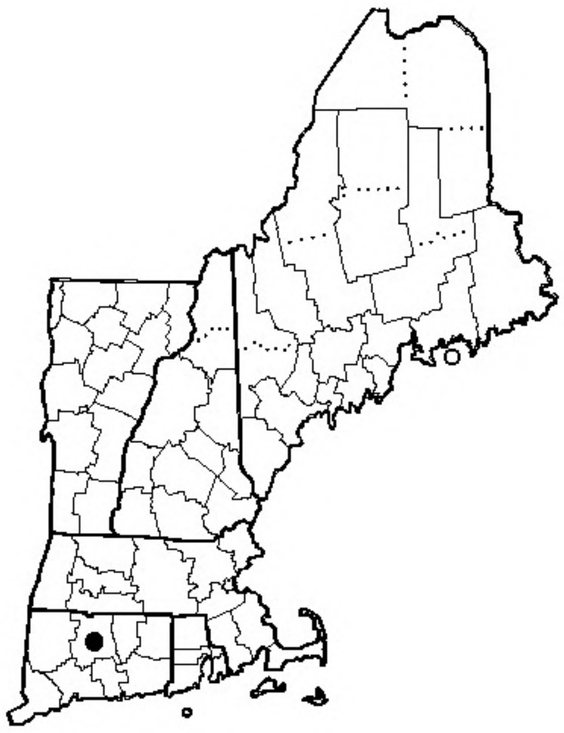
Prunus umbellata



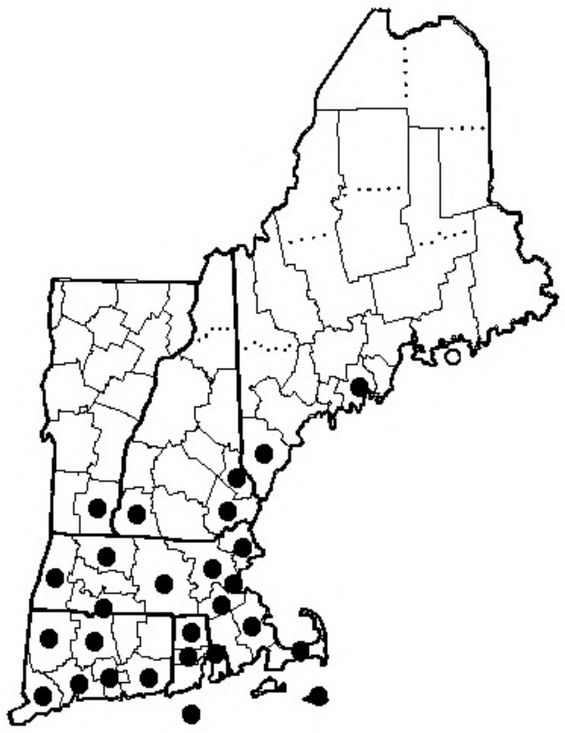
Prunus virginiana
var. *virginiana*



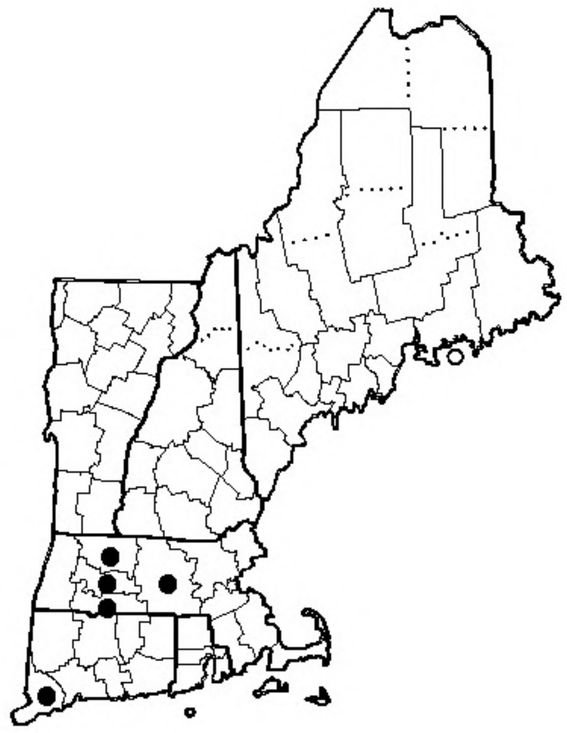
Prunus serotina var. *serotina*
X *P. virginiana* var. *virginiana*



PYRUS CALLERYANA

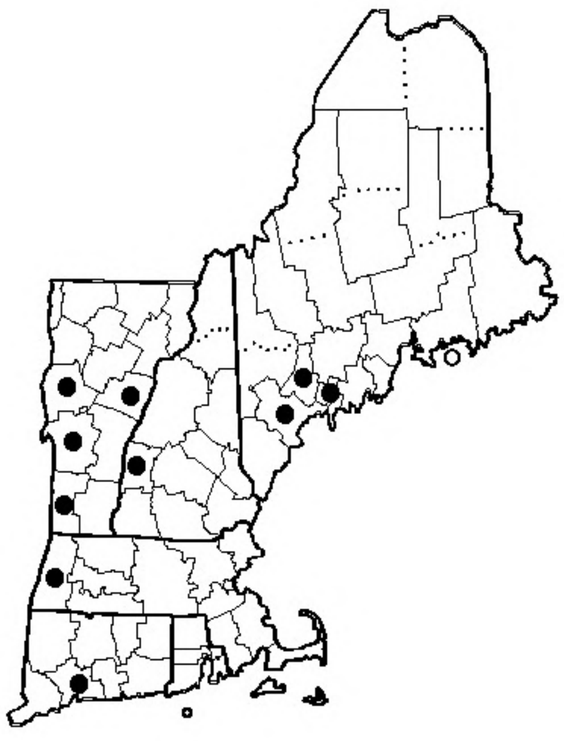


PYRUS COMMUNIS

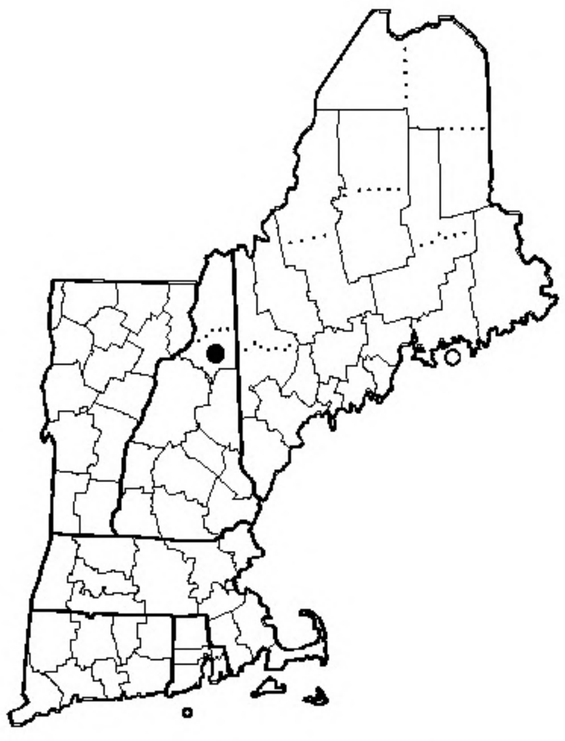


RHODOTYPUS SCANDENS

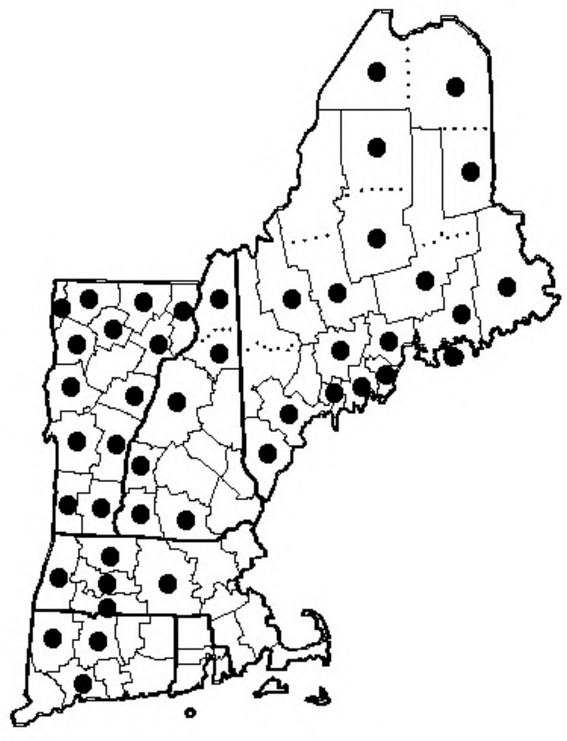
Figure 17. Distribution maps.



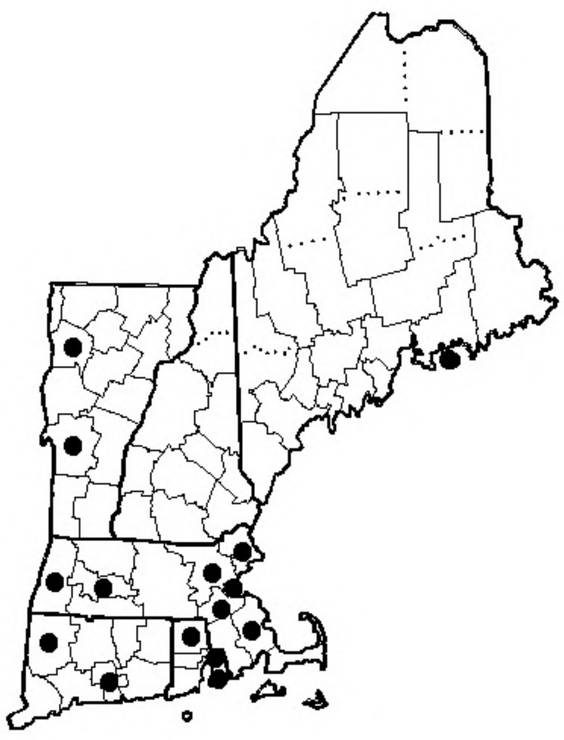
Rosa acicularis
subsp. *sayi*



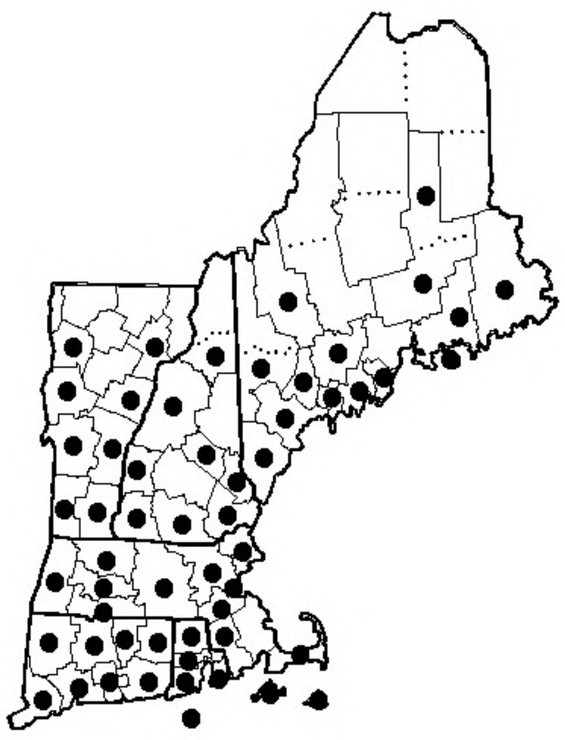
ROSA ARKANSANA



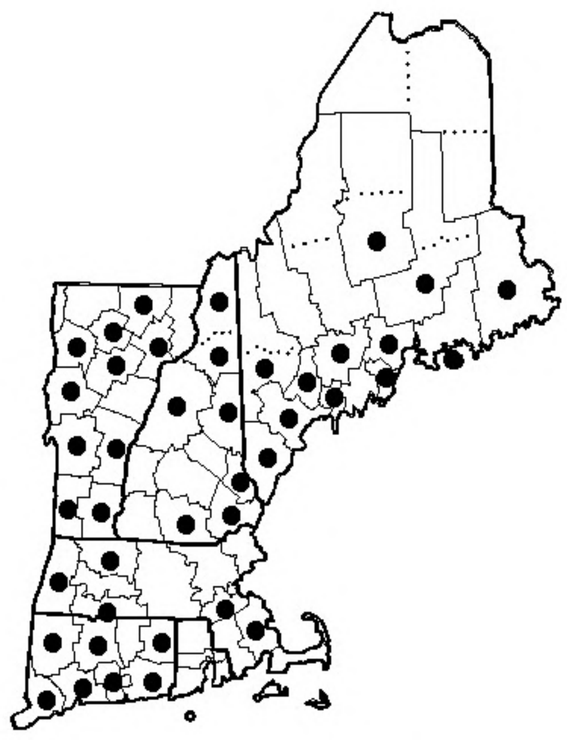
Rosa blanda



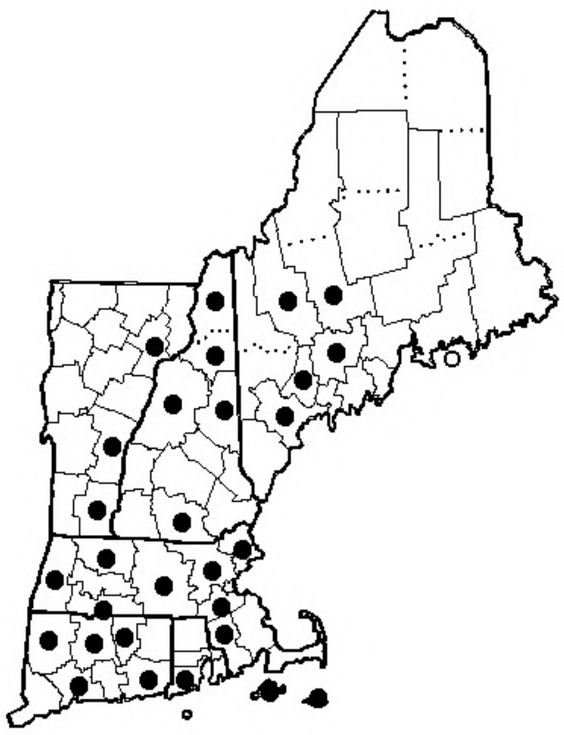
ROSA CANINA



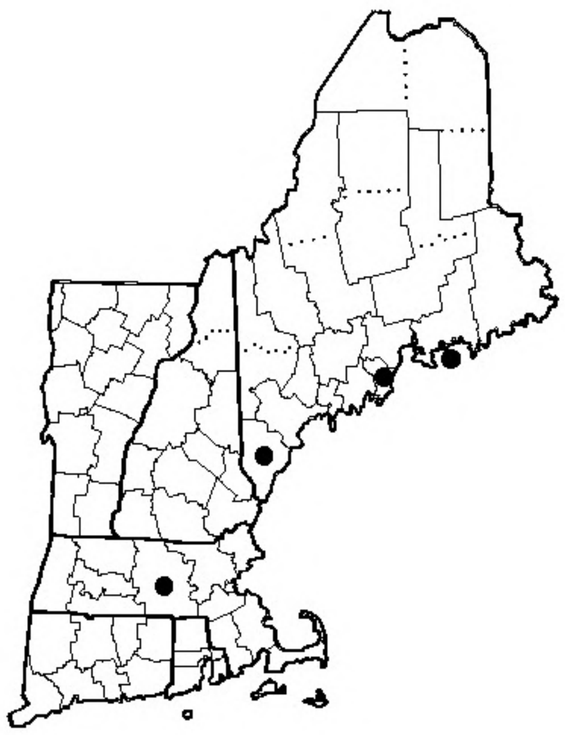
Rosa carolina
subsp. *carolina*



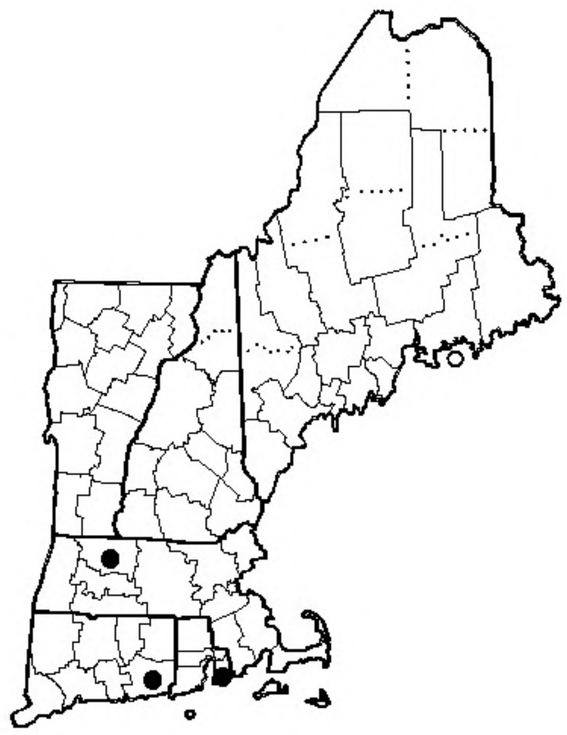
ROSA CINNAMOMEA



ROSA GALLICA

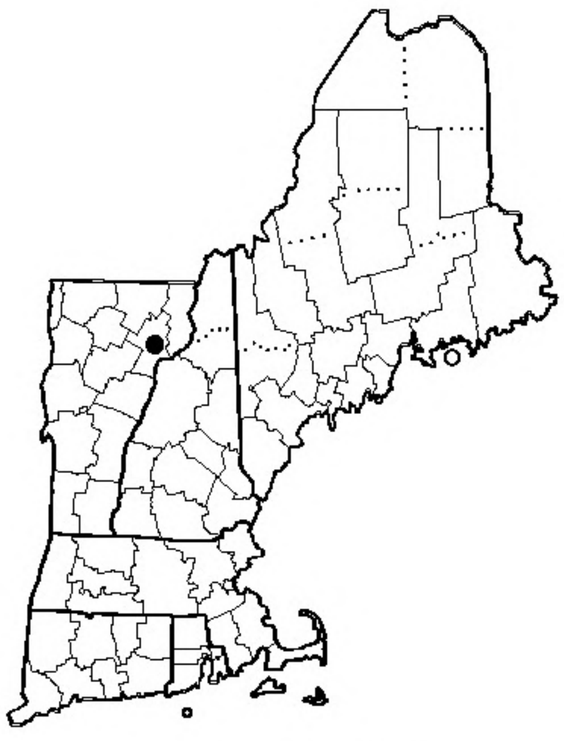


ROSA GLAUCA

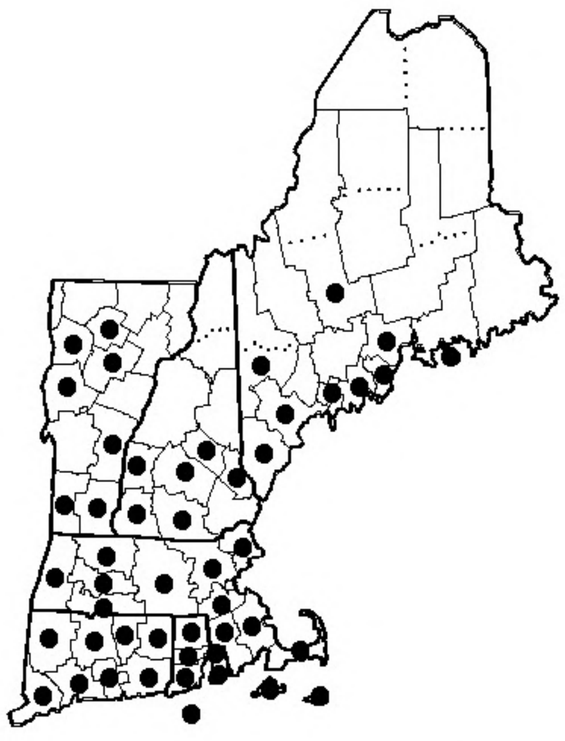


ROSA LUCIAE

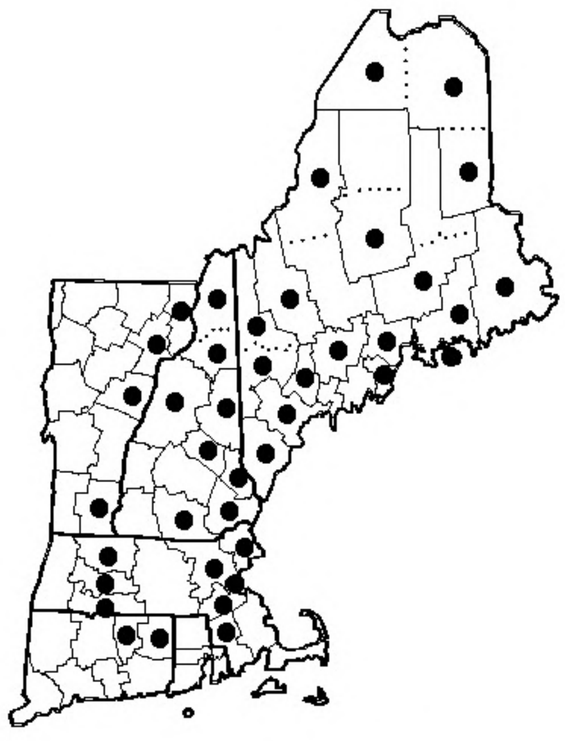
Figure 18. Distribution maps.



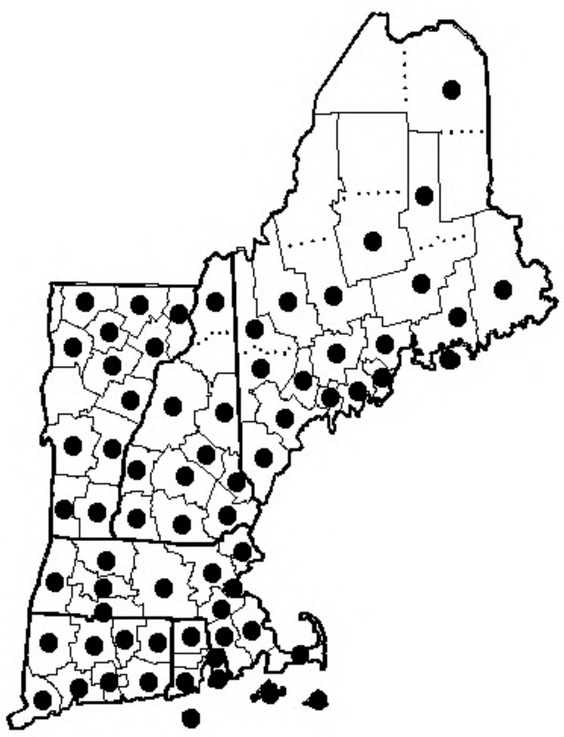
ROSA MOLLIS



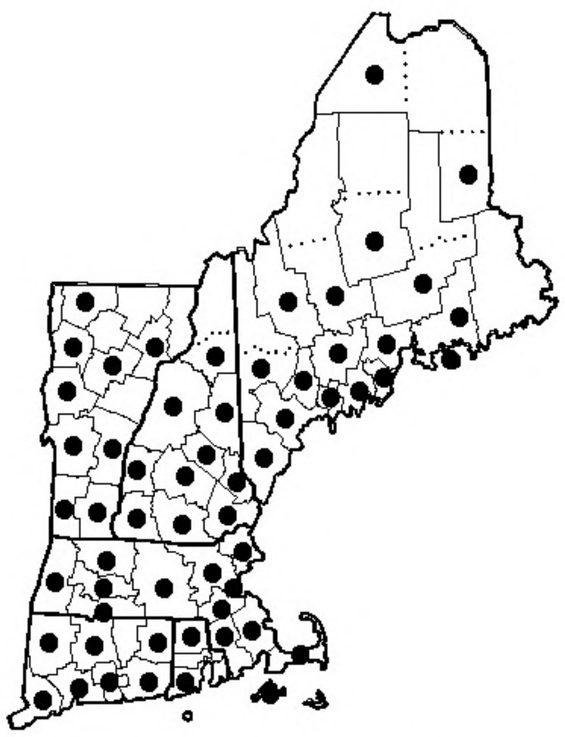
ROSA MULTIFLORA



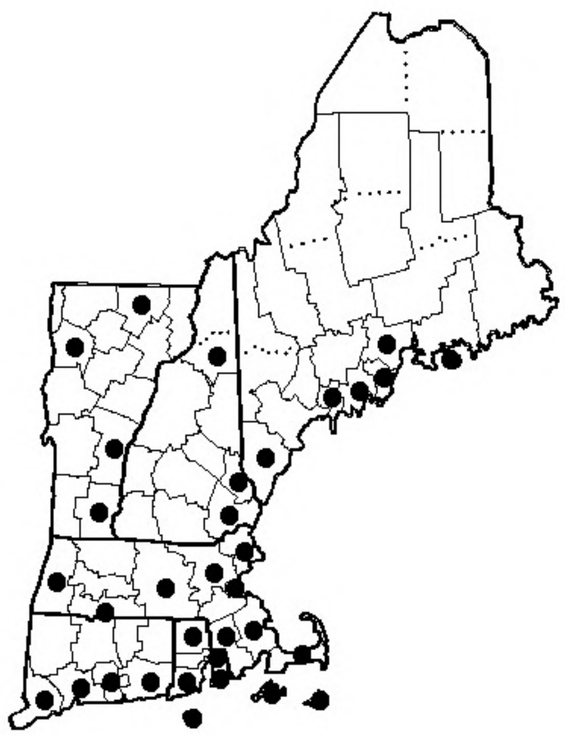
Rosa nitida



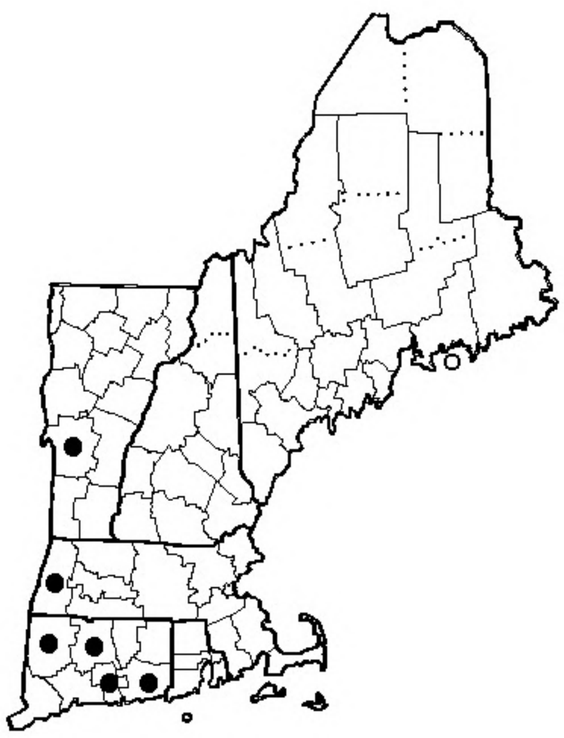
Rosa palustris



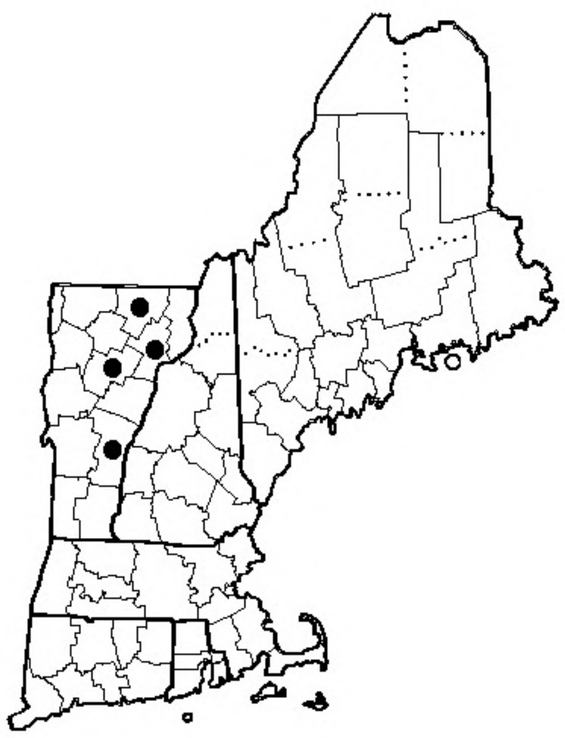
ROSA RUBIGINOSA
var. *RUBIGINOSA*



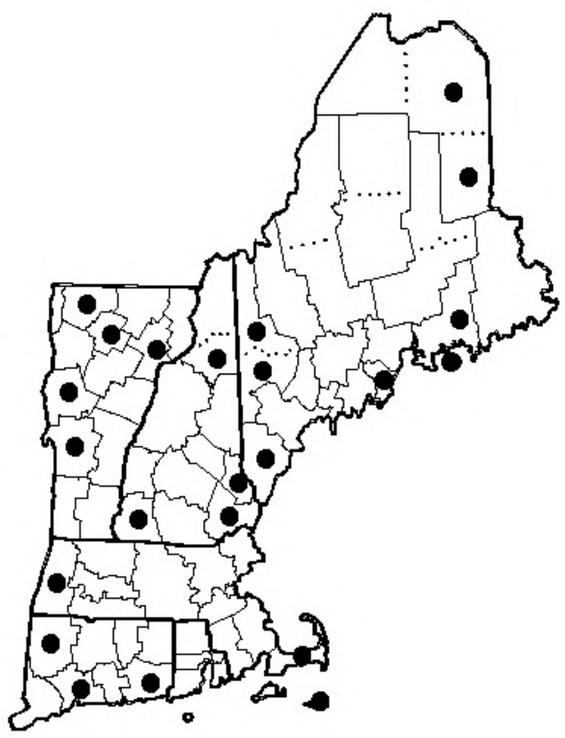
ROSA RUGOSA



ROSA SETIGERA

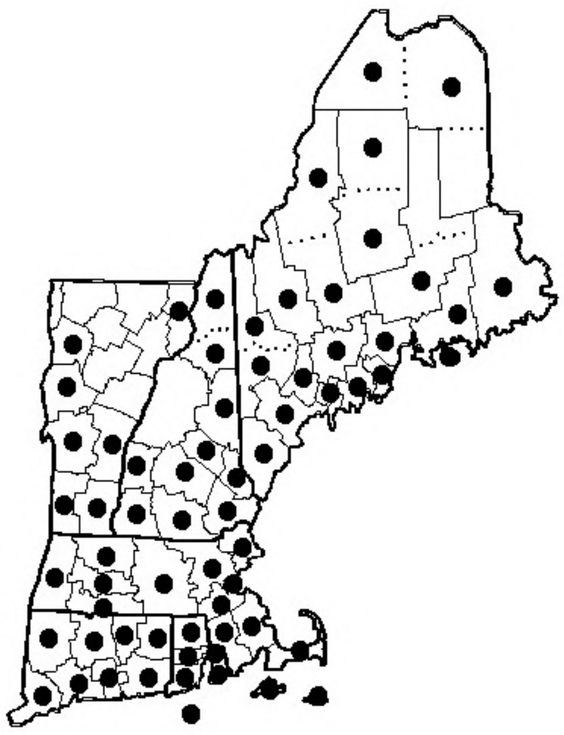


ROSA SHERARDII

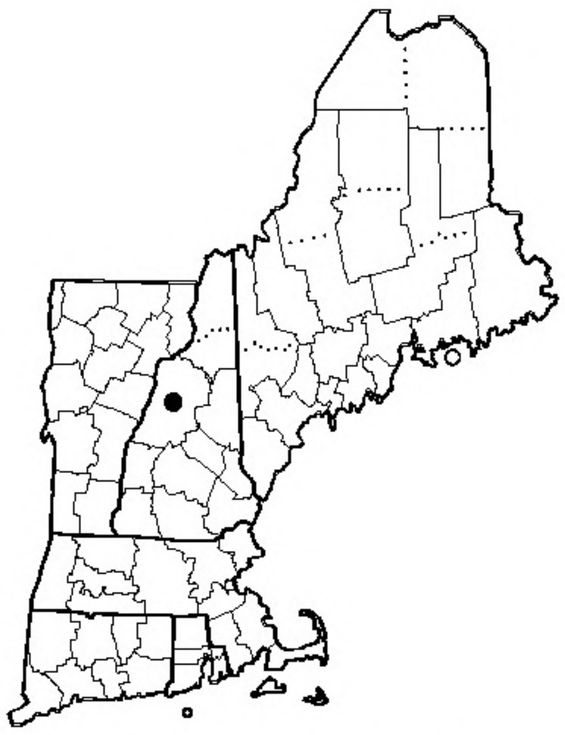


ROSA SPINOSISSIMA

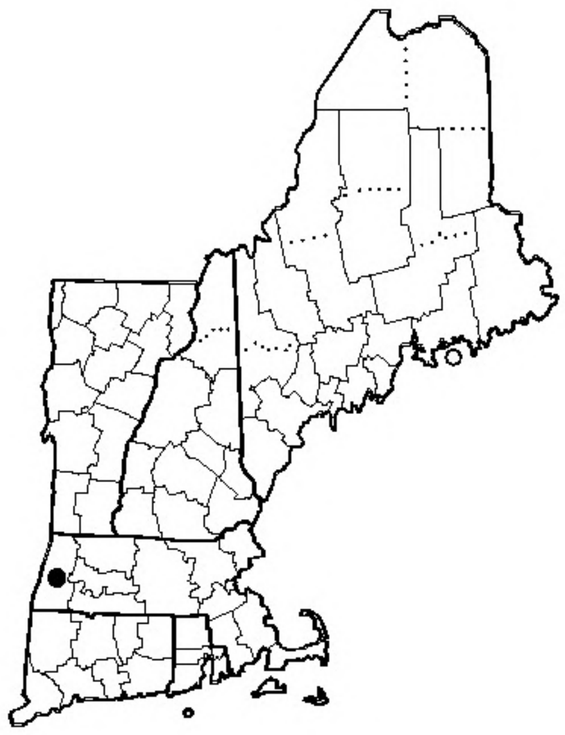
Figure 19. Distribution maps.



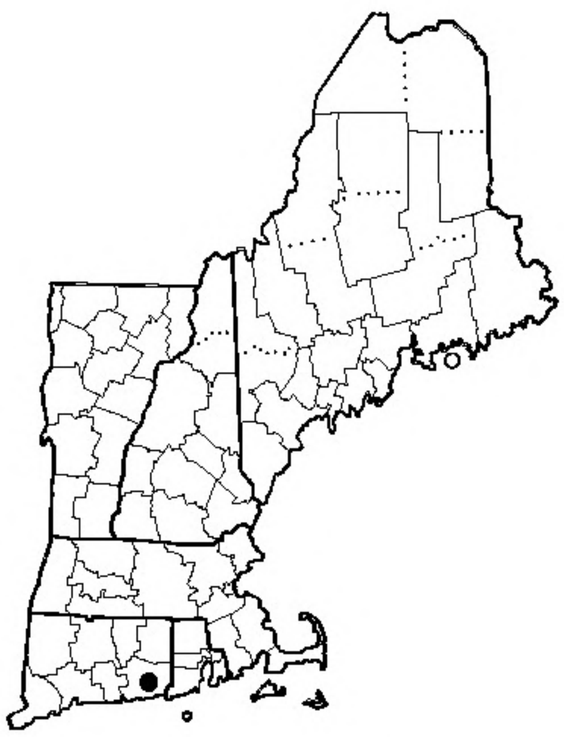
Rosa virginiana



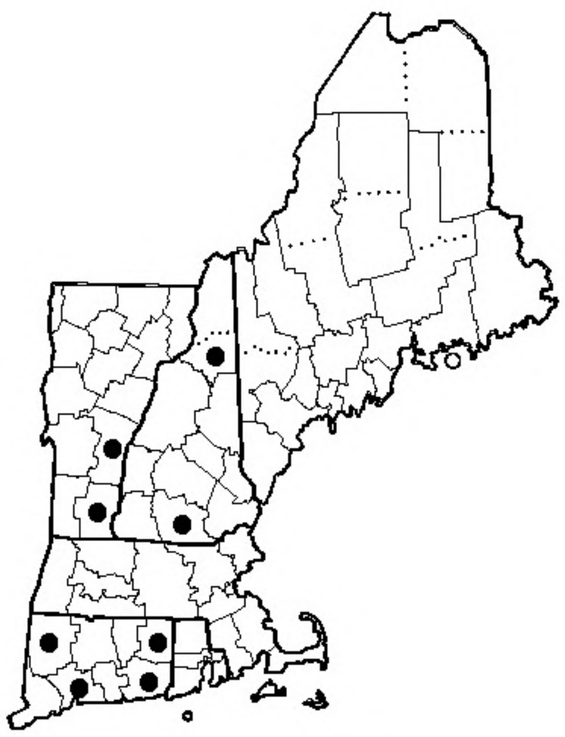
Rosa carolina subsp. *carolina*
X *R. palustris*



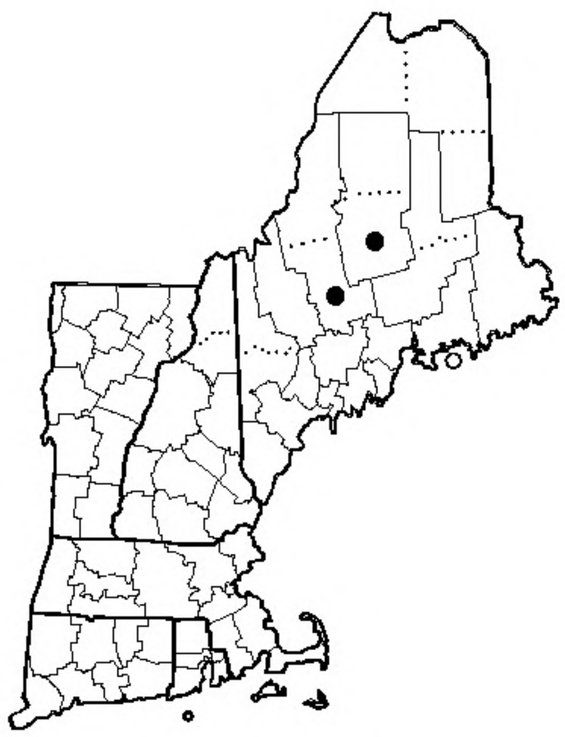
Rosa carolina subsp. *carolina*
X *R. RUBIGINOSA* var. *RUBIGINOSA*



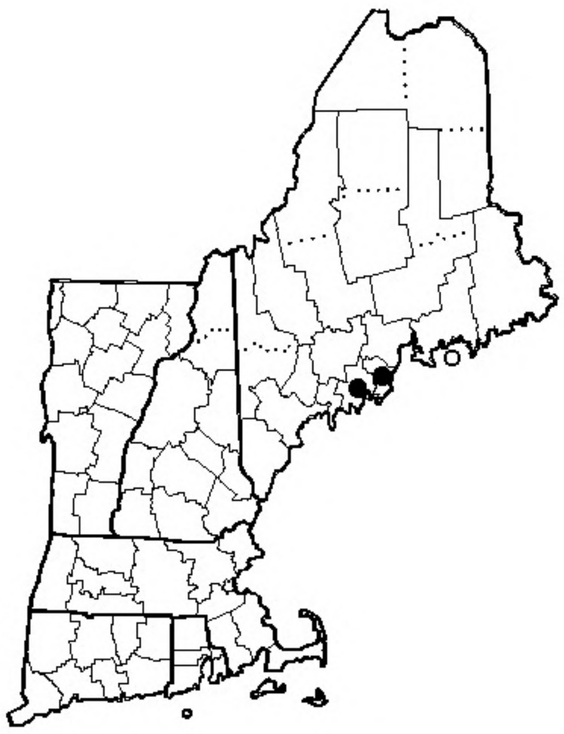
ROSA X *CENTIFOLIA*



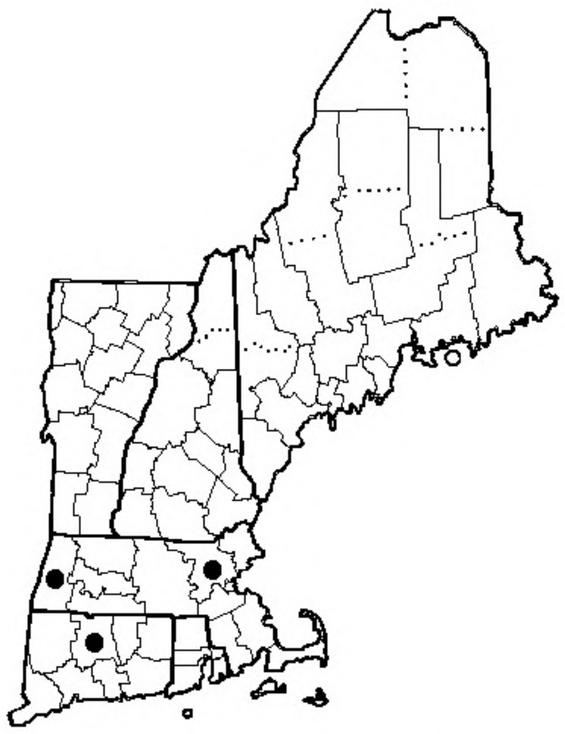
ROSA X *FRANCOFURTANA*



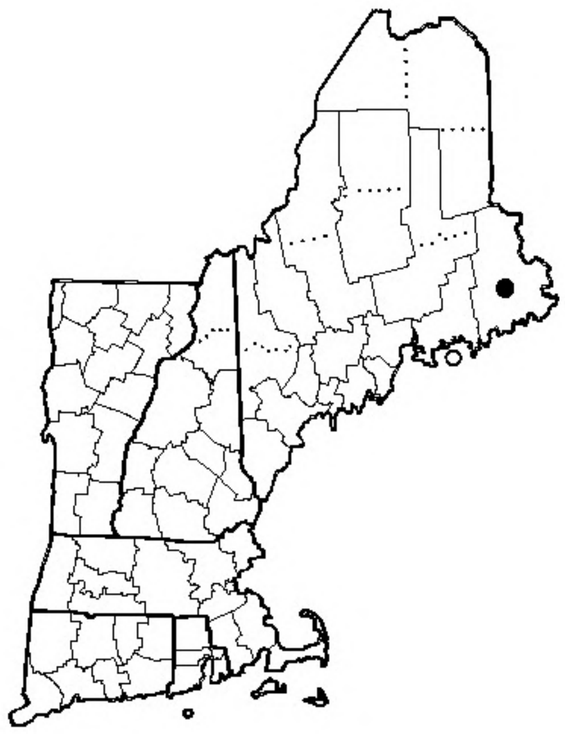
Rosa nitida
X *R. palustris*



Rosa nitida
X *R. virginiana*

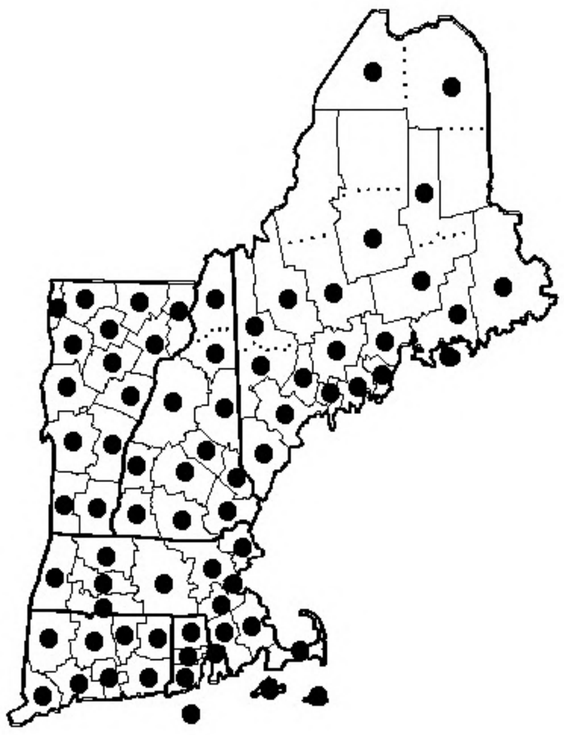


Rosa X *novae-angliae*

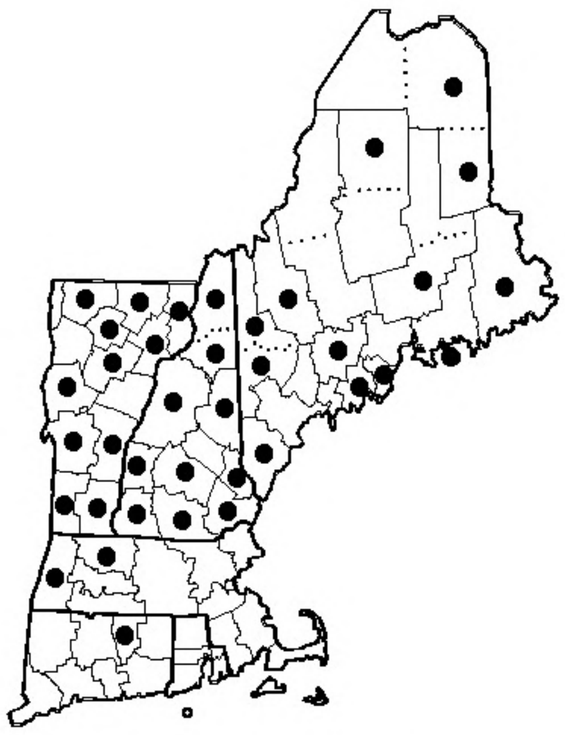


Rosa palustris
X *R. virginiana*

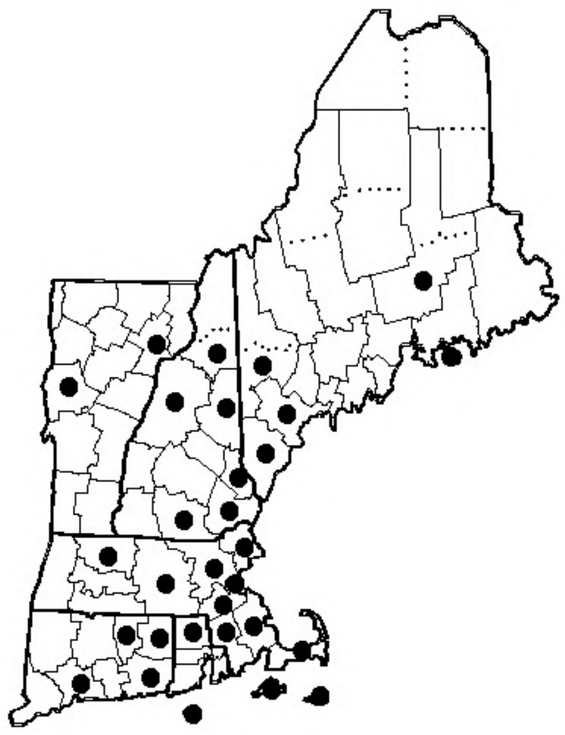
Figure 20. Distribution maps.



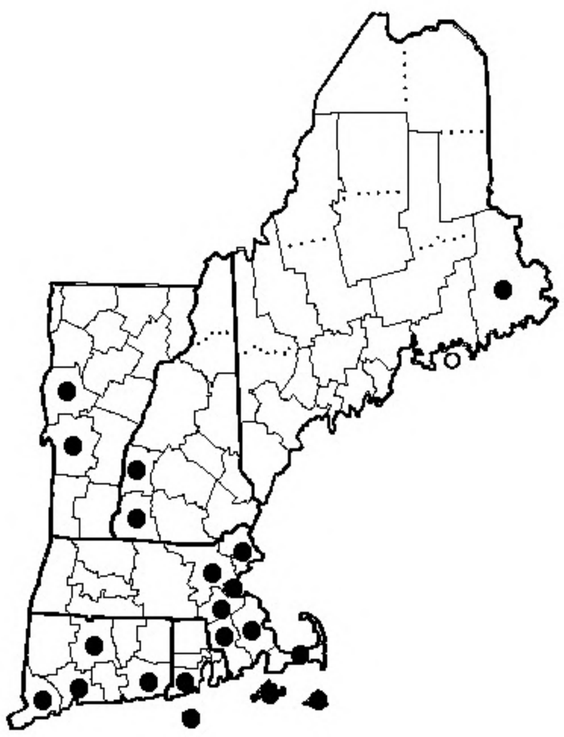
Rubus allegheniensis



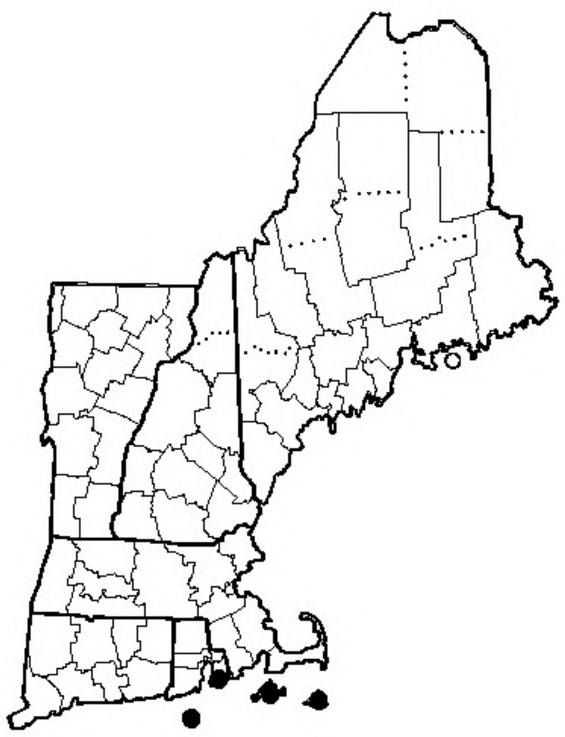
Rubus amicalis



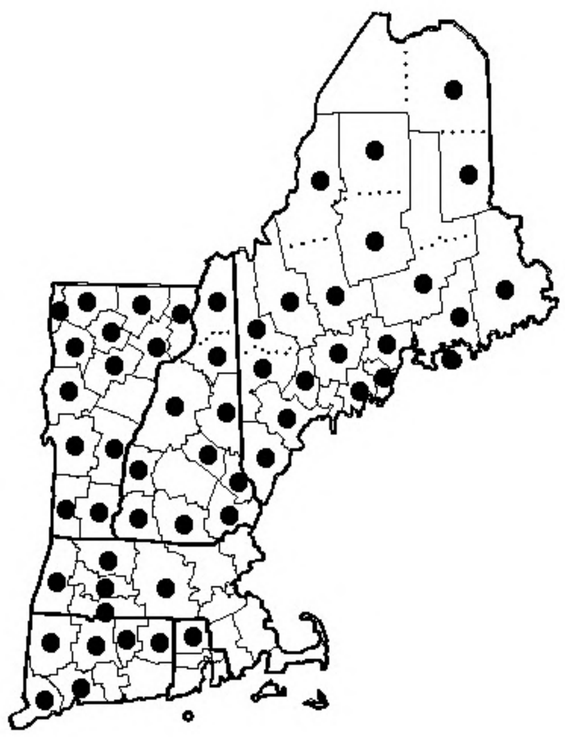
Rubus arenicola



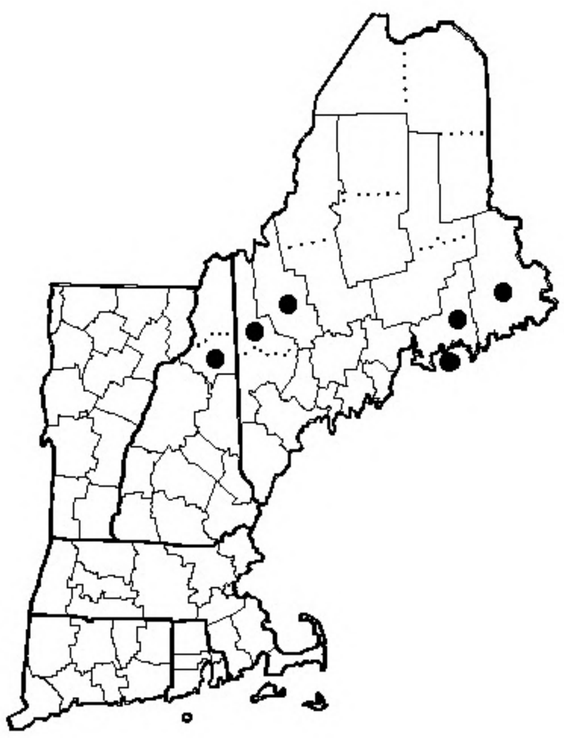
Rubus argutus



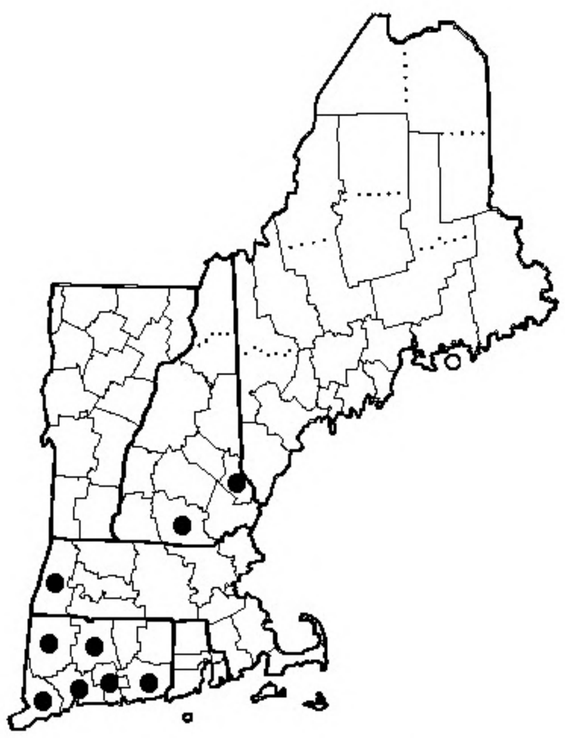
RUBUS BIFRONS



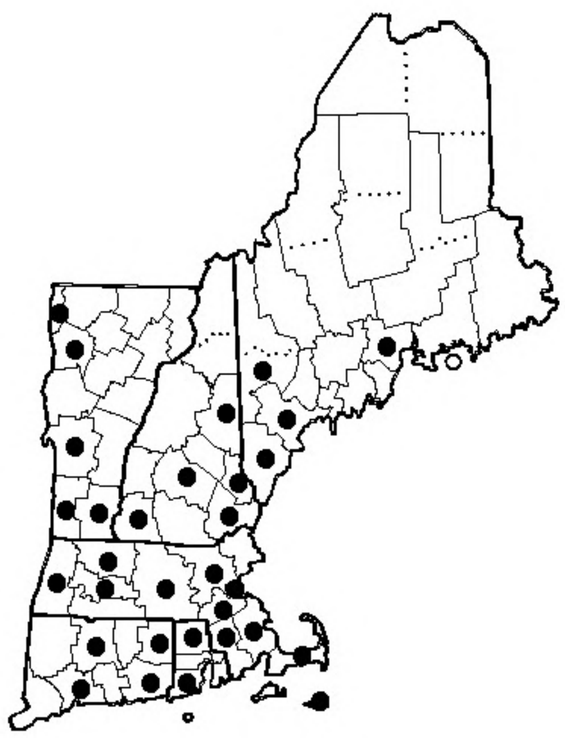
Rubus canadensis



Rubus chamaemorus

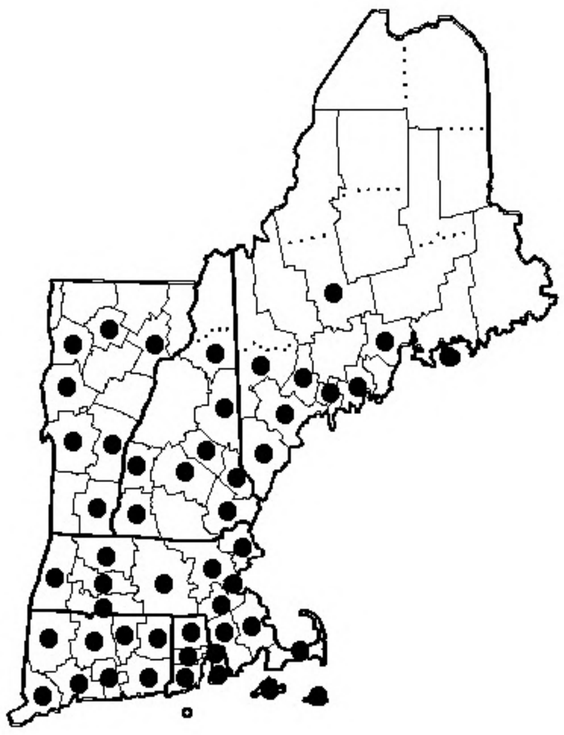


Rubus cuneifolius

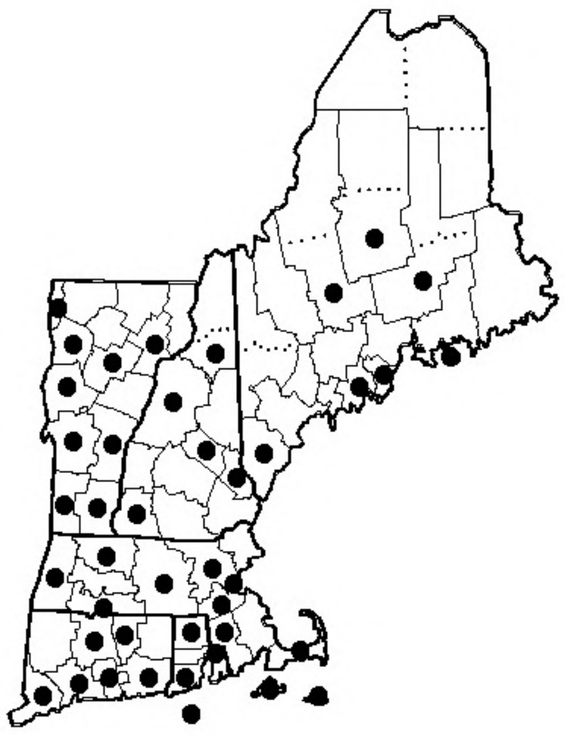


Rubus enslenii

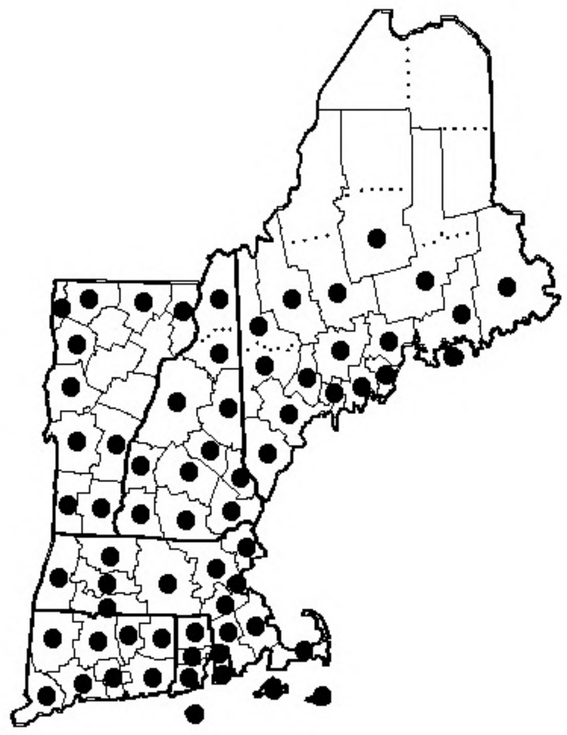
Figure 21. Distribution maps.



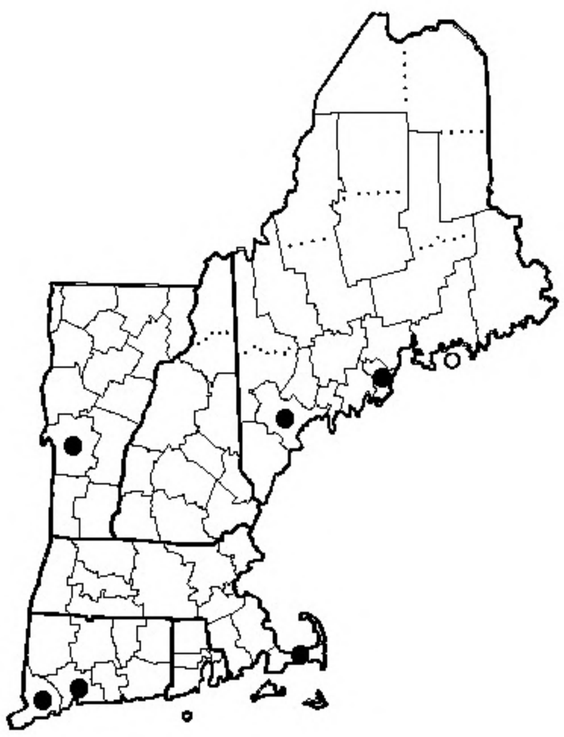
Rubus flagellaris



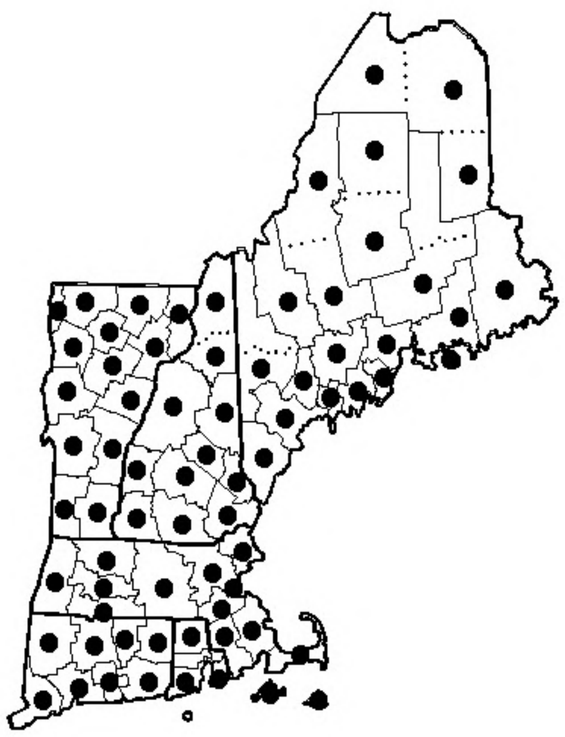
Rubus frondosus



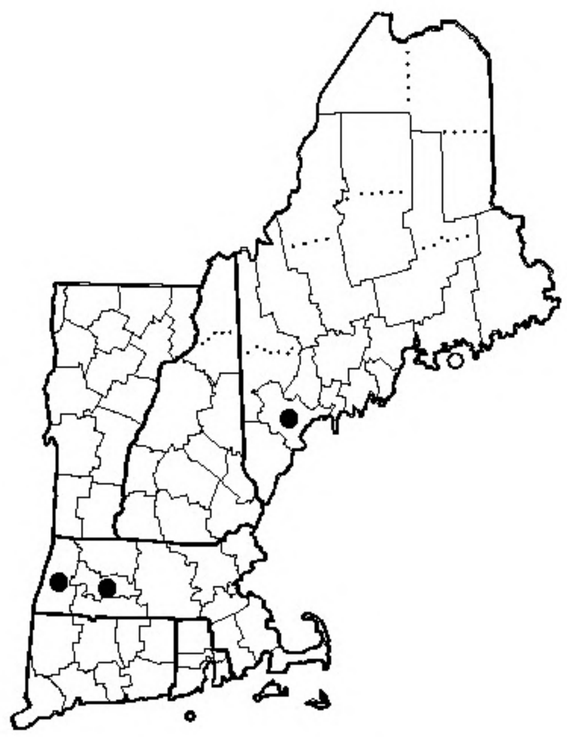
Rubus hispidus



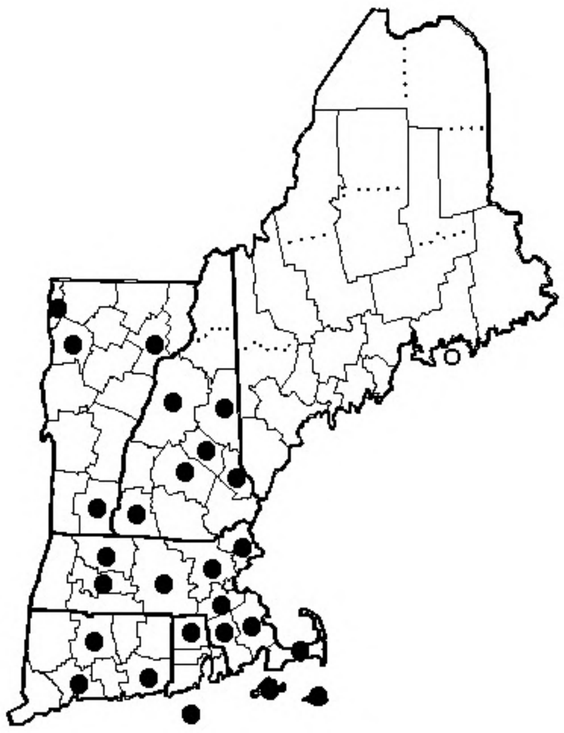
RUBUS IDAEUS
subsp. *IDAEUS*



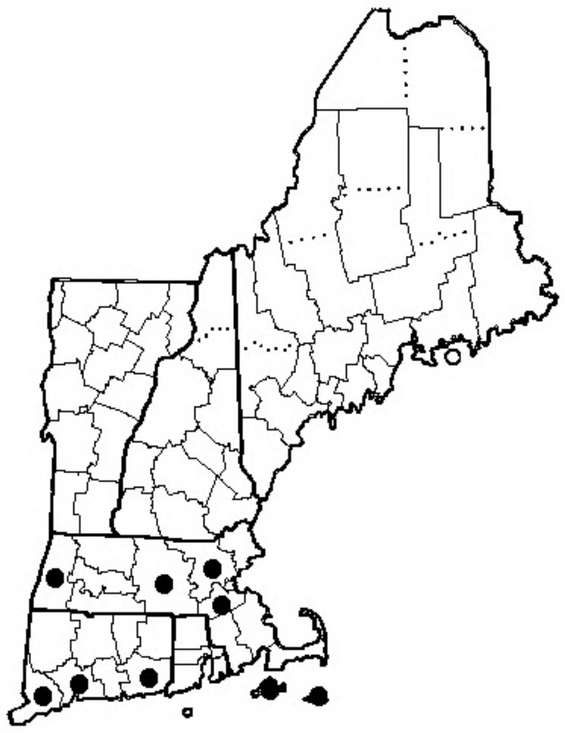
Rubus idaeus
subsp. *strigosus*



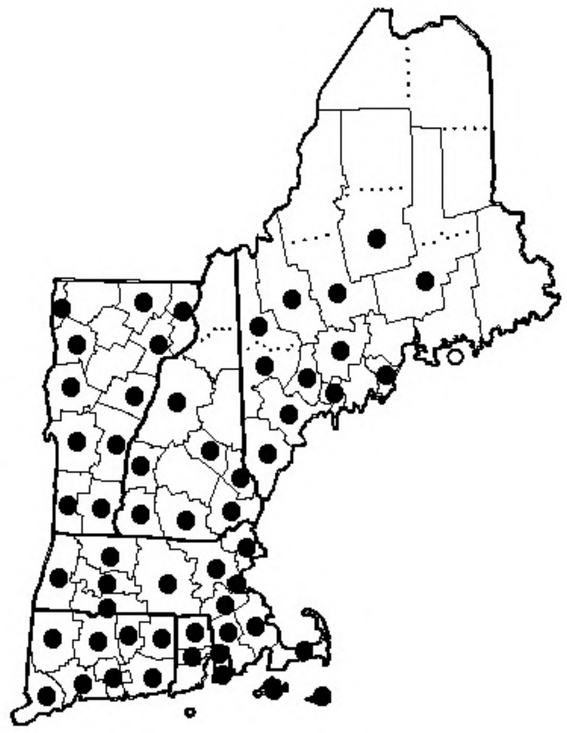
RUBUS ILLECEBROSUS



Rubus jaysmithii

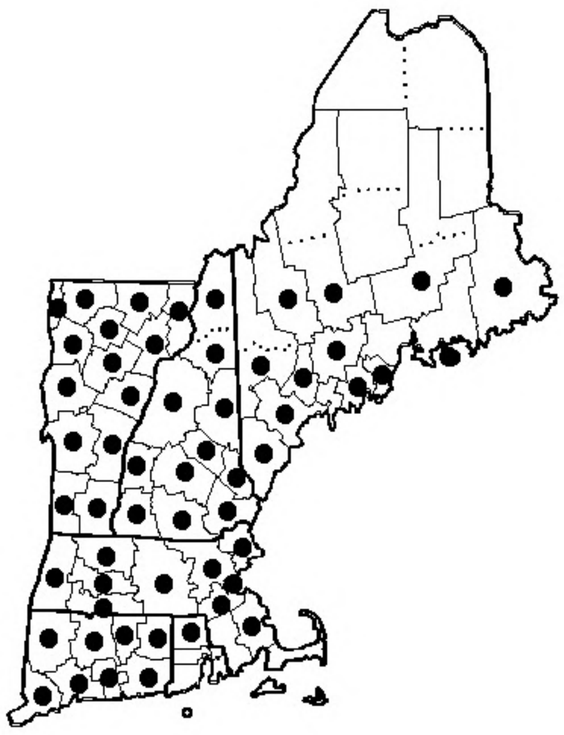


RUBUS LACINIATUS

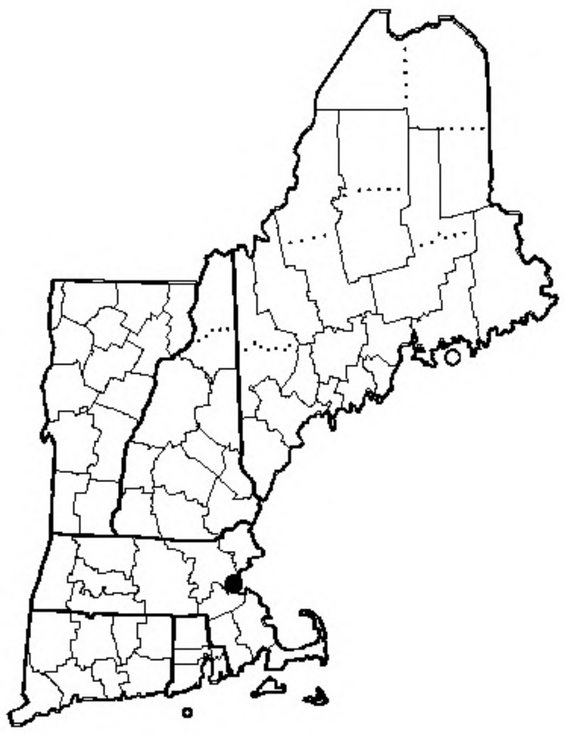


Rubus occidentalis

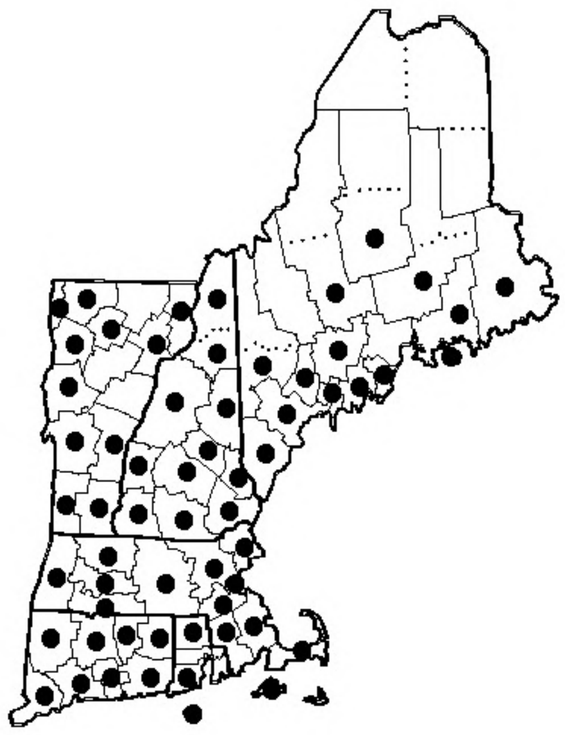
Figure 22. Distribution maps.



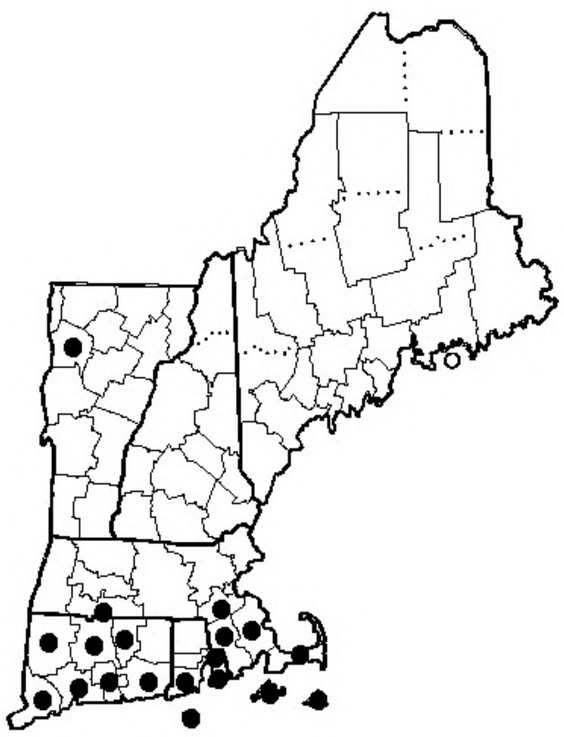
Rubus odoratus



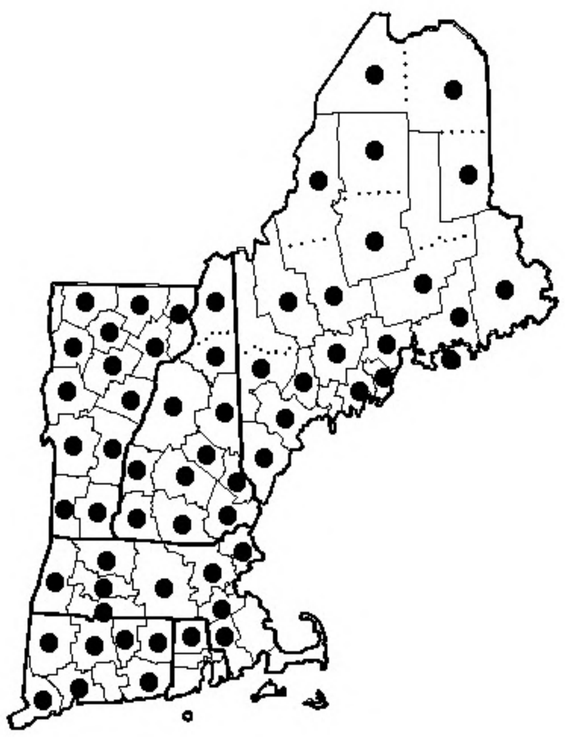
RUBUS PARVIFOLIUS



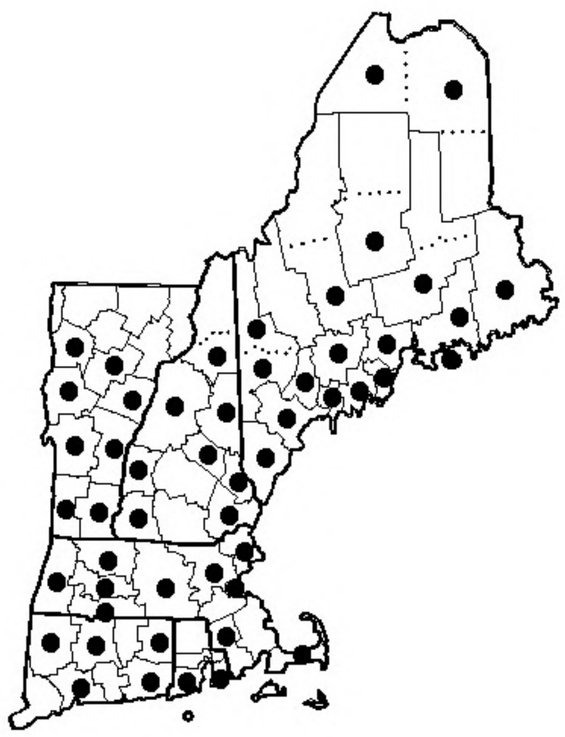
Rubus pensilvanicus



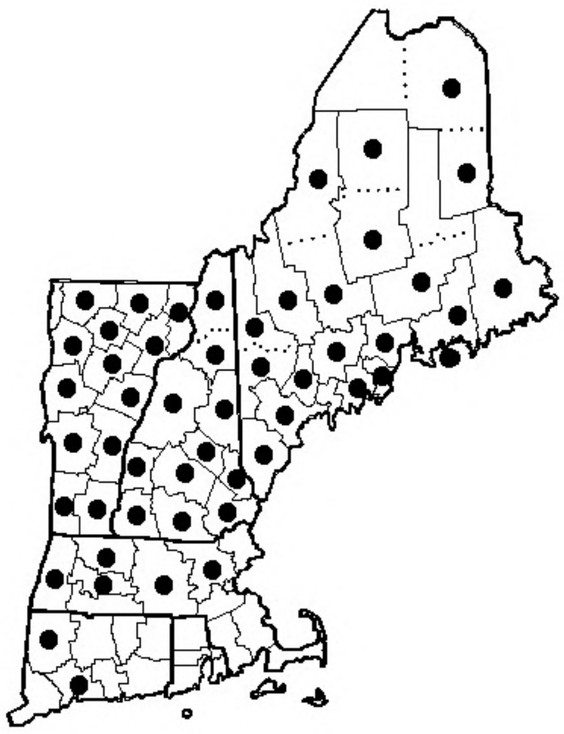
RUBUS PHOENICOLASIUS



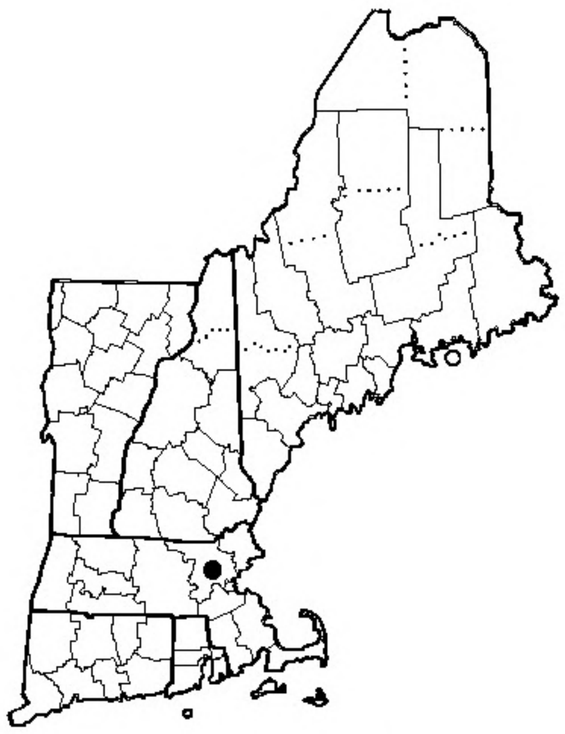
Rubus pubescens



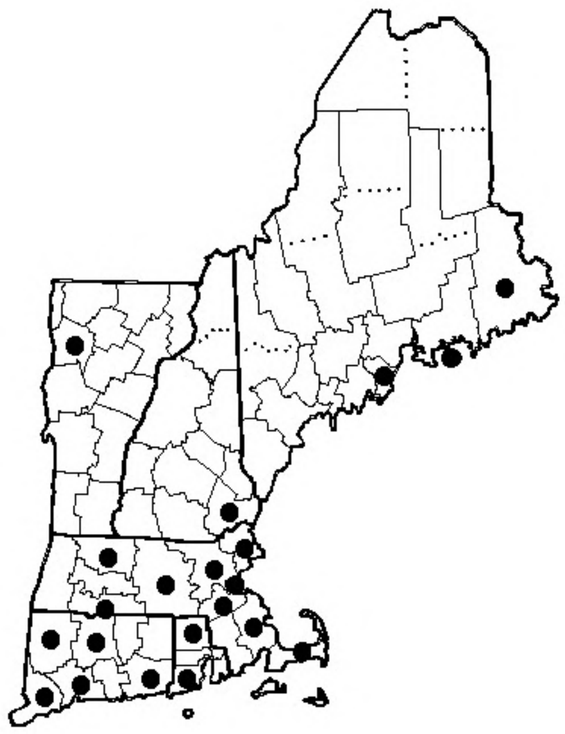
Rubus recurvicaulis



Rubus repens

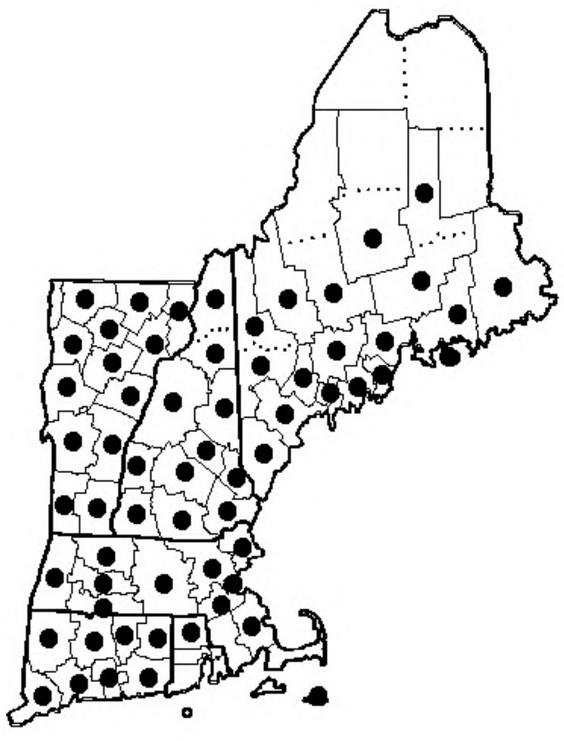


RUBUS RORIBACCUS

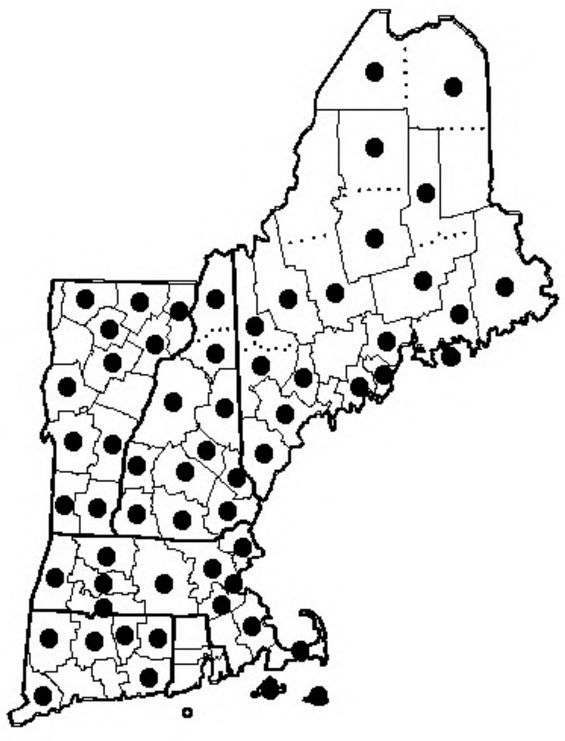


Rubus semisetosus

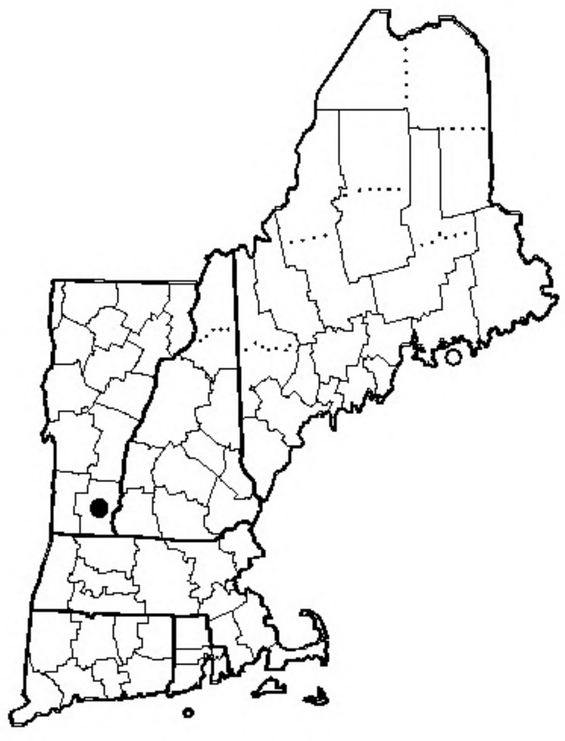
Figure 23. Distribution maps.



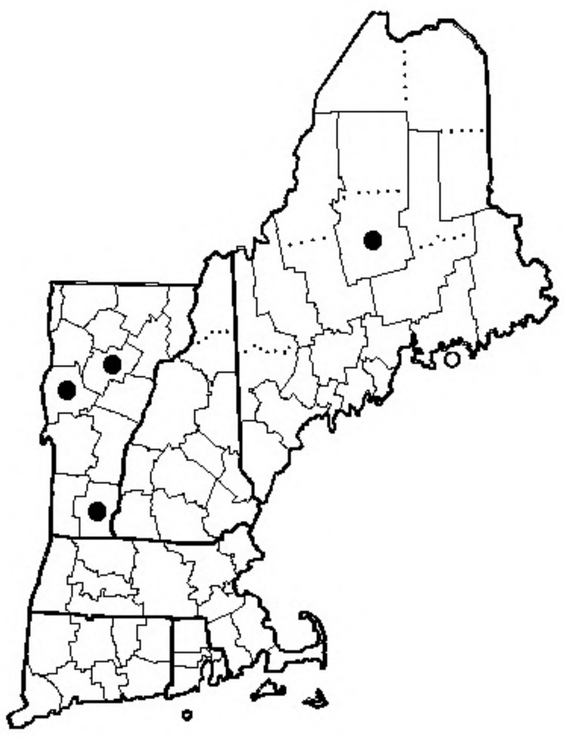
Rubus setosus



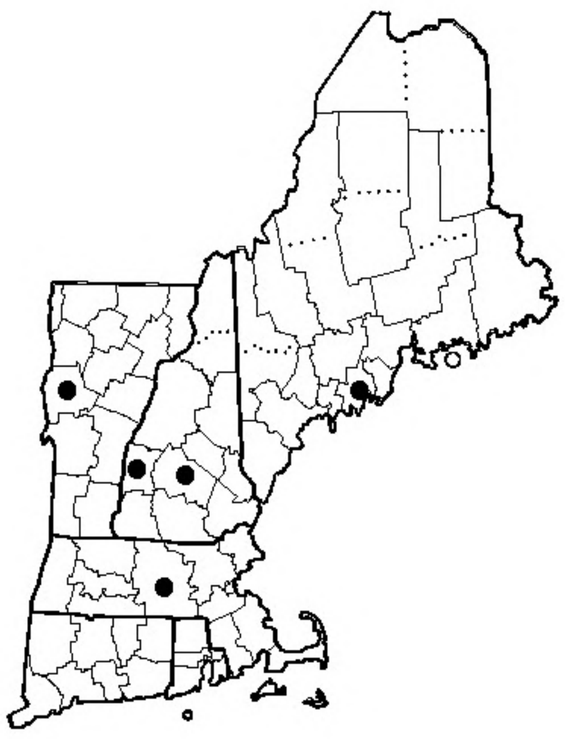
Rubus vermontanus



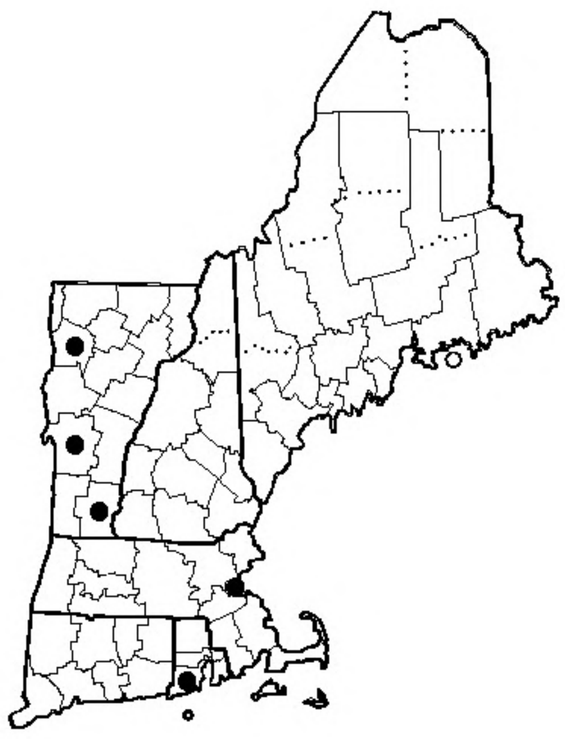
Rubus allegheniensis
X *R. amicalis*



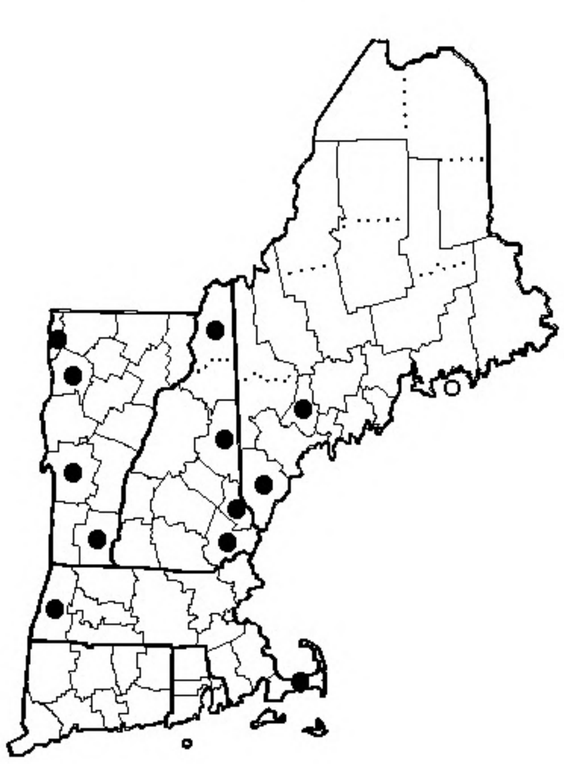
Rubus allegheniensis
X *R. canadensis*



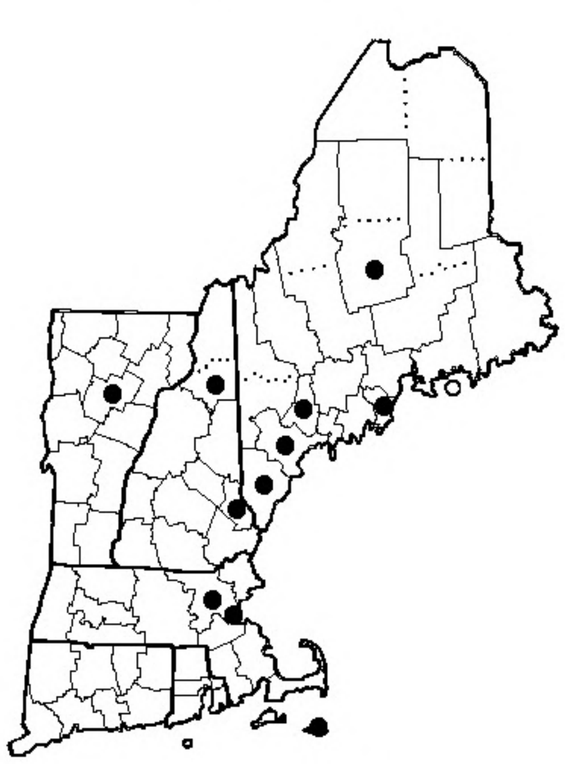
Rubus allegheniensis
X *R. flagellaris*



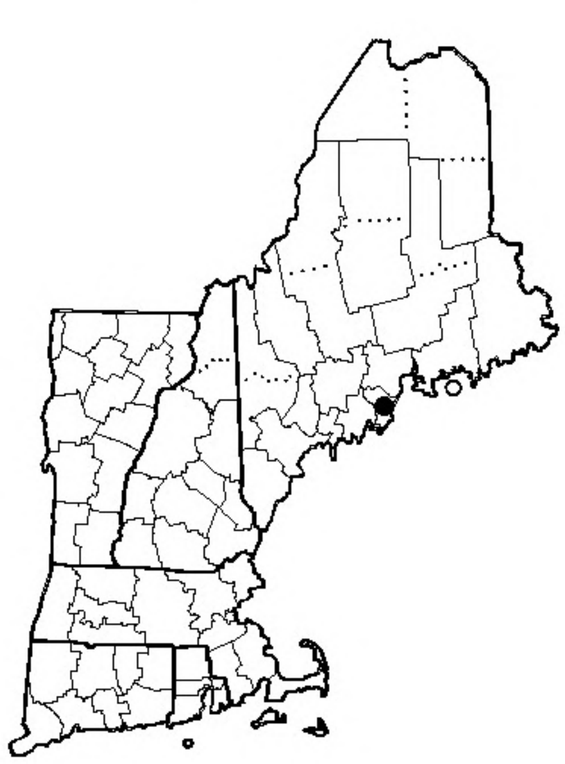
Rubus allegheniensis
X *R. frondosus*



Rubus allegheniensis
X *R. hispidus*

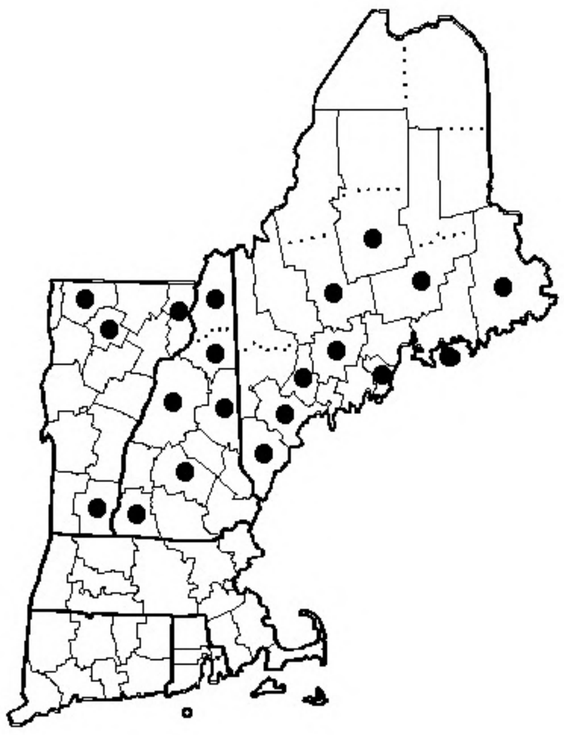


Rubus allegheniensis
X *R. pensilvanicus*

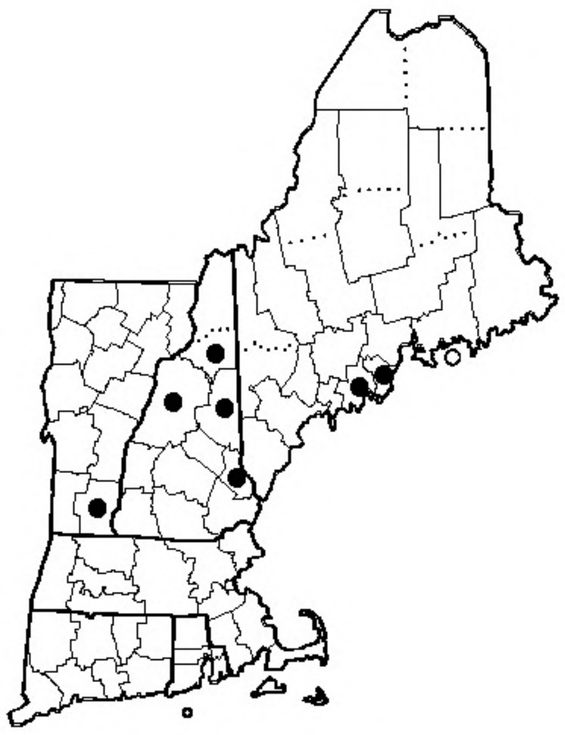


Rubus allegheniensis
X *R. recurvicaulis*

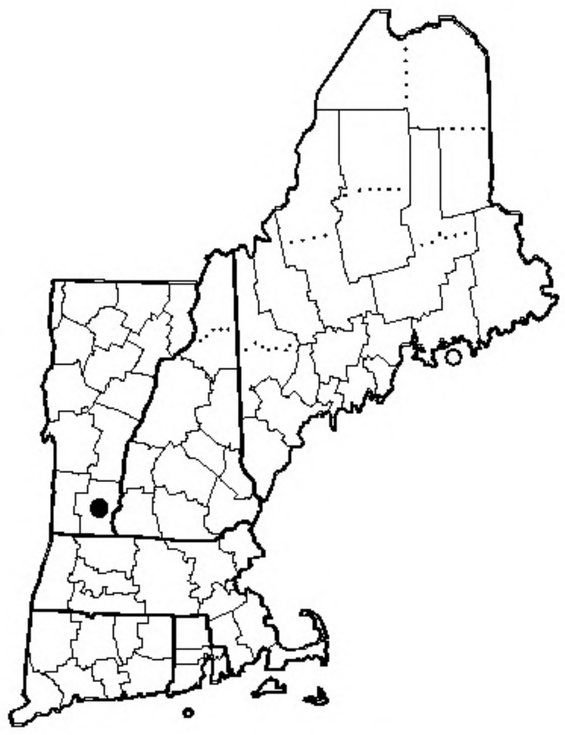
Figure 24. Distribution maps.



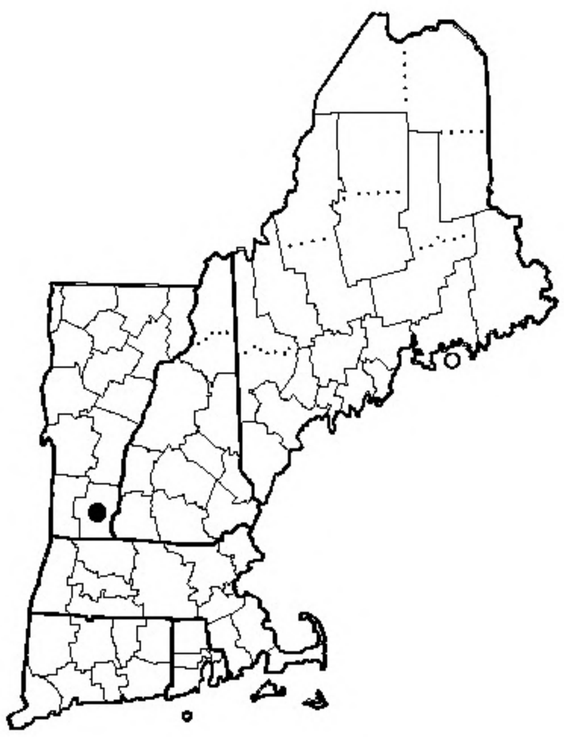
Rubus allegheniensis
X *R. setosus*



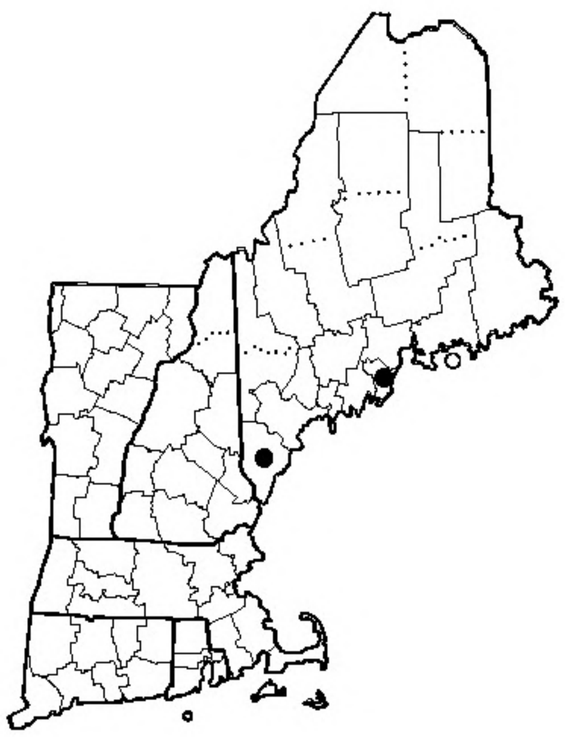
Rubus allegheniensis
X *R. vermontanus*



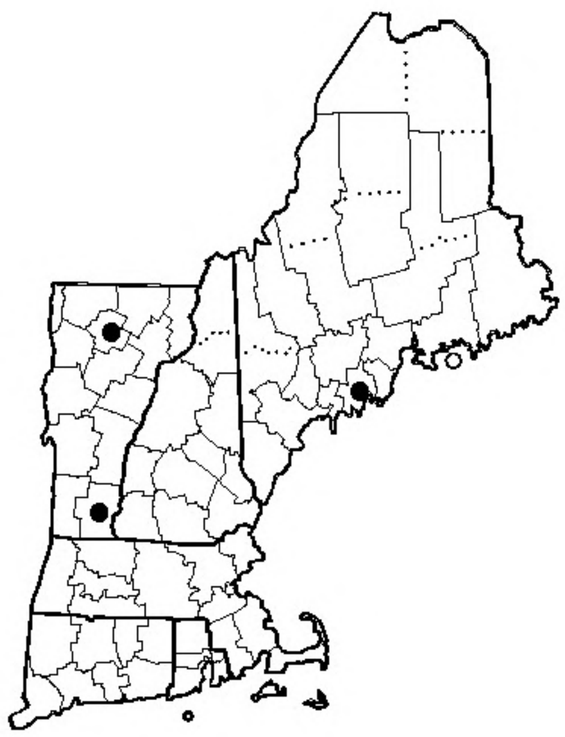
Rubus amicalis
X *R. frondosus*



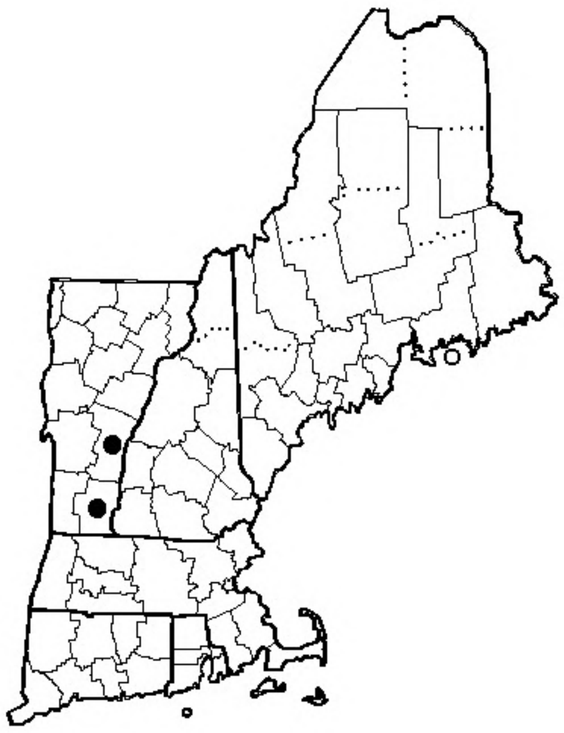
Rubus amicalis
X *R. jaysmithii*



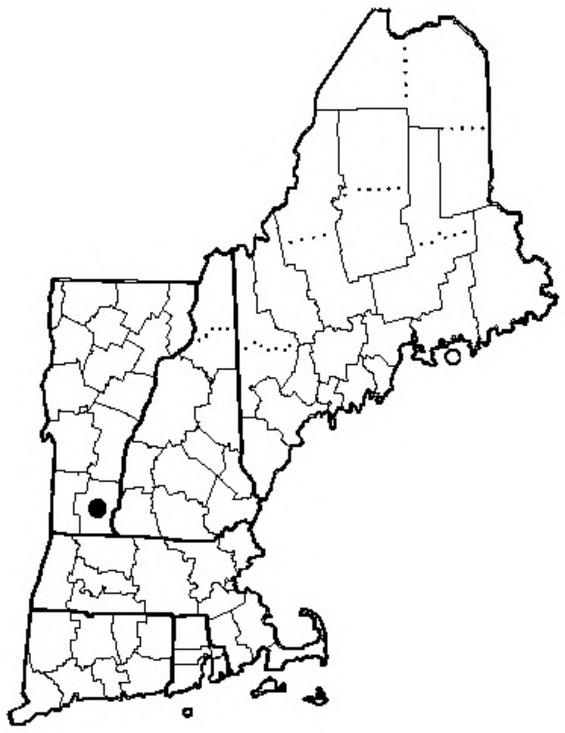
Rubus amicalis
X *R. recurvicaulis*



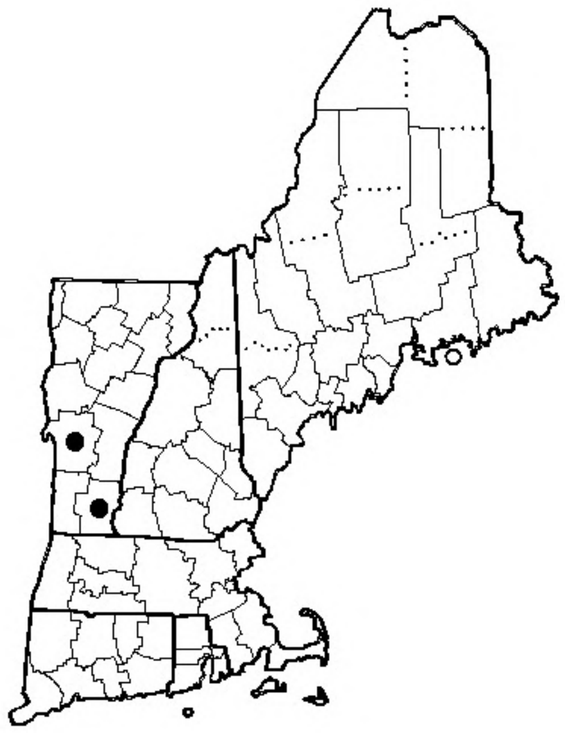
Rubus amicalis
X *R. setosus*



Rubus amicalis
X *R. vermontanus*

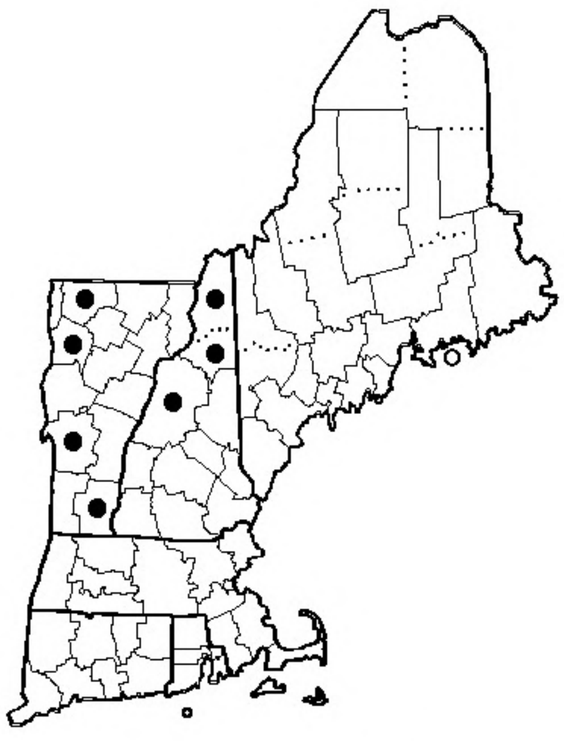


Rubus canadensis
X *R. amicalis*

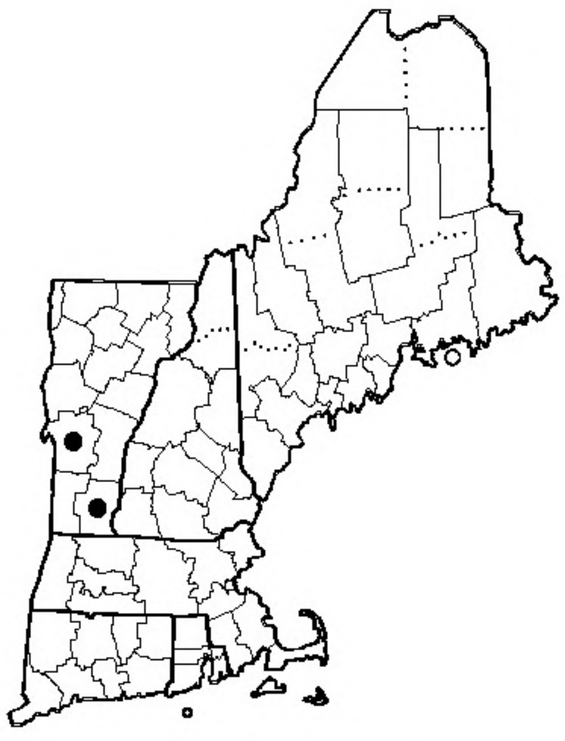


Rubus canadensis
X *R. frondosus*

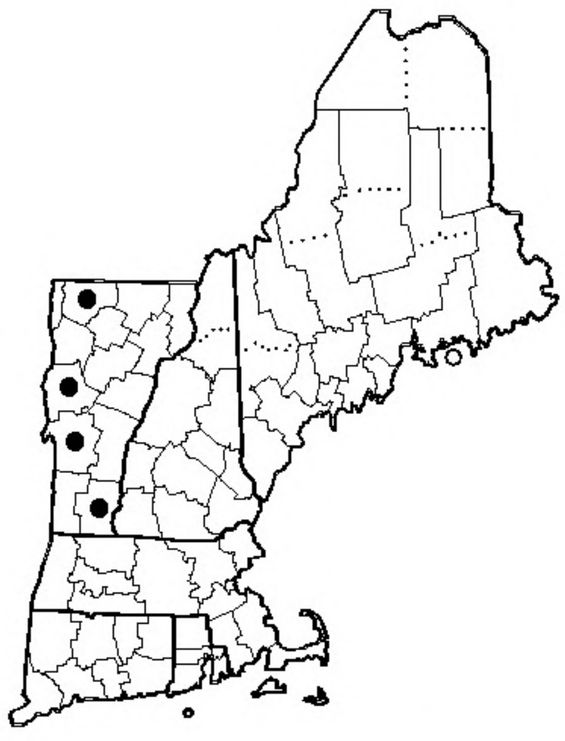
Figure 25. Distribution maps.



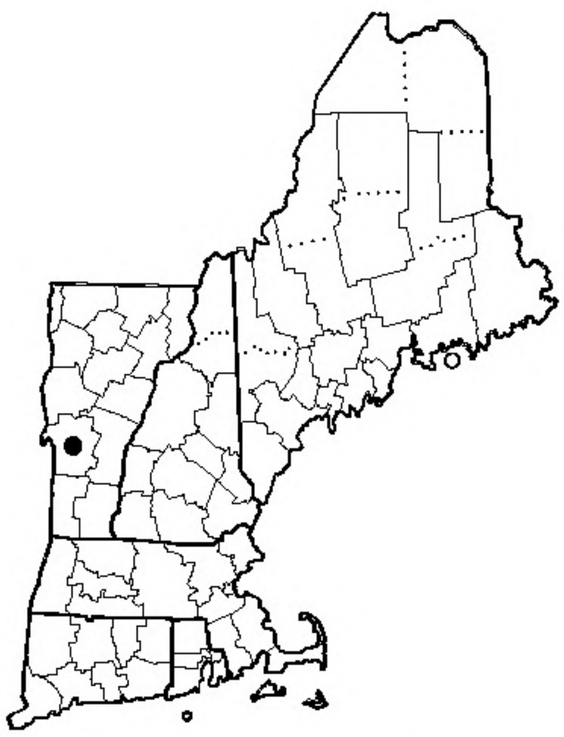
Rubus canadensis
X *R. pensilvanicus*



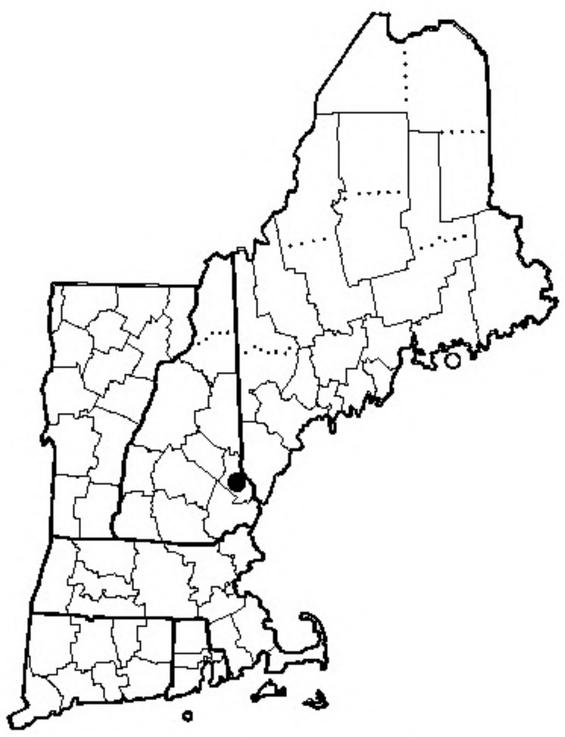
Rubus canadensis
X *R. setosus*



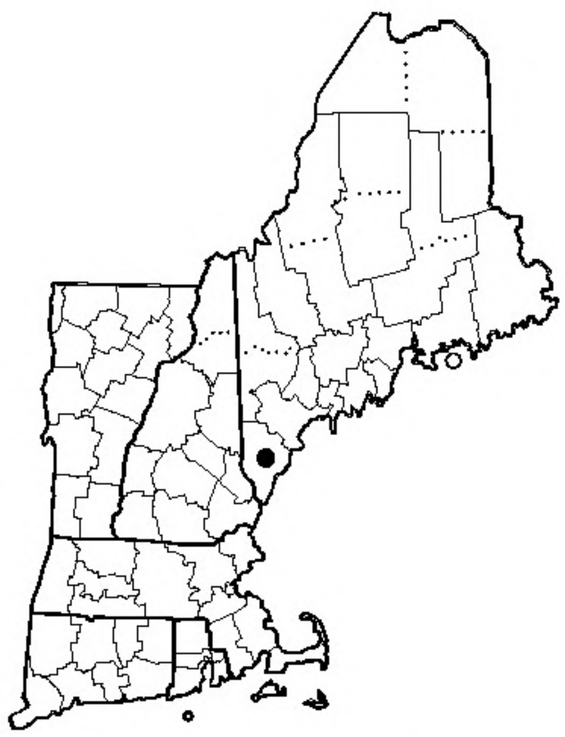
Rubus canadensis
X *R. vermontanus*



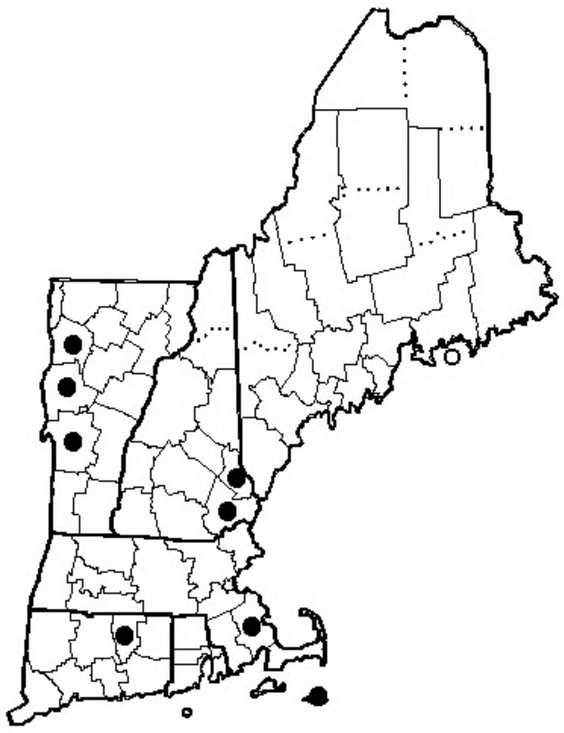
Rubus enslenii
X *R. frondosus*



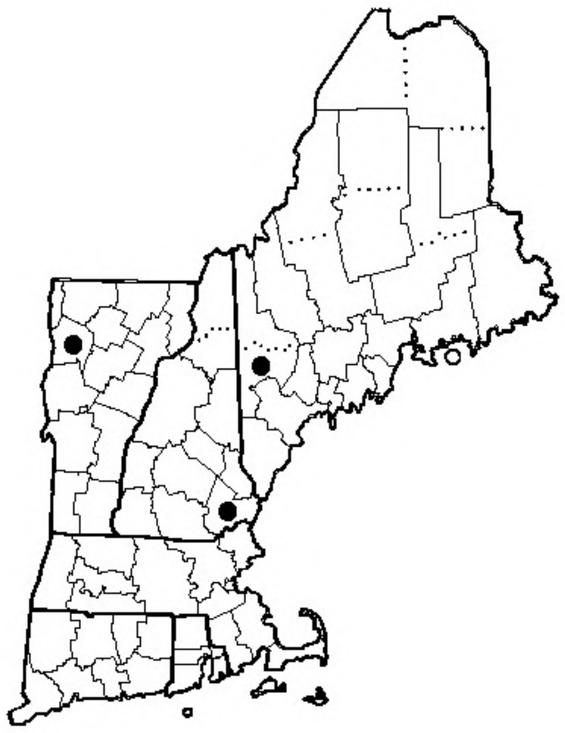
Rubus enslenii
X *R. pensilvanicus*



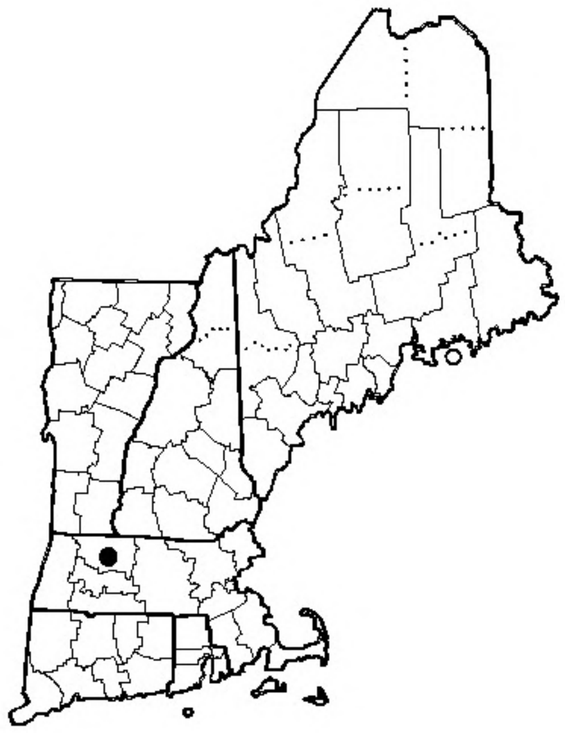
Rubus enslenii
X *R. recurvicaulis*



Rubus flagellaris
X *R. frondosus*

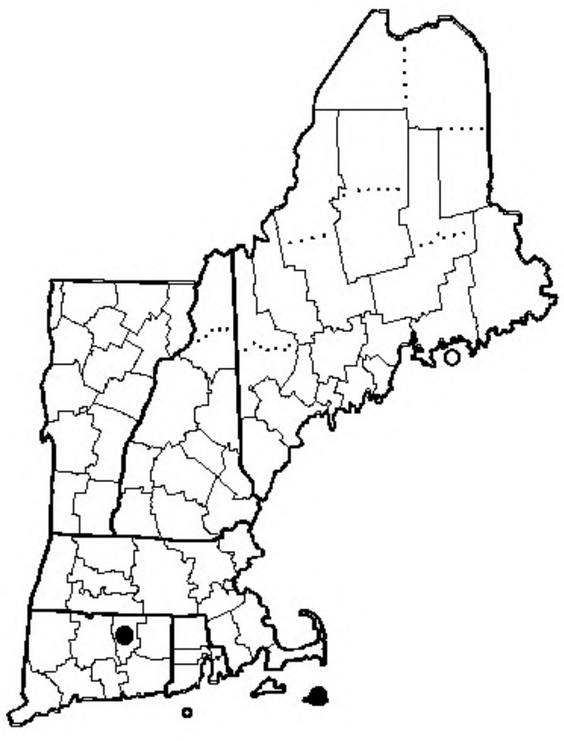


Rubus flagellaris
X *R. hispidus*

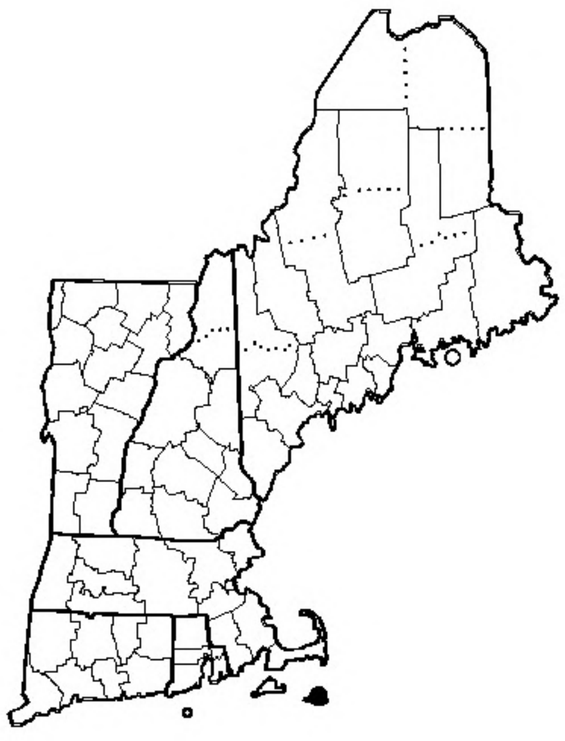


Rubus flagellaris
X *R. recurvicaulis*

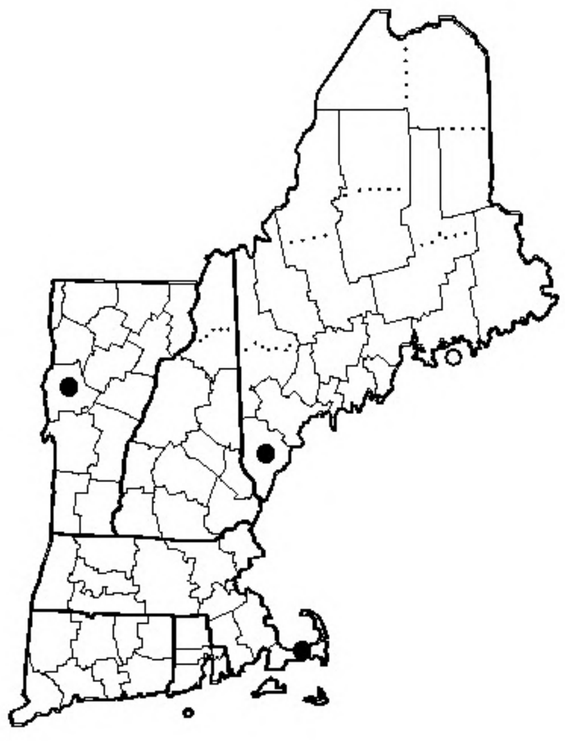
Figure 26. Distribution maps.



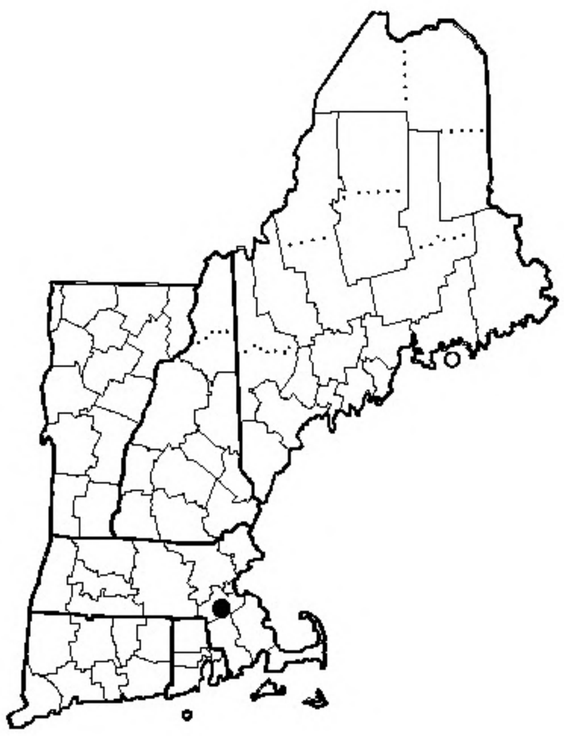
Rubus frondosus
X *R. hispidus*



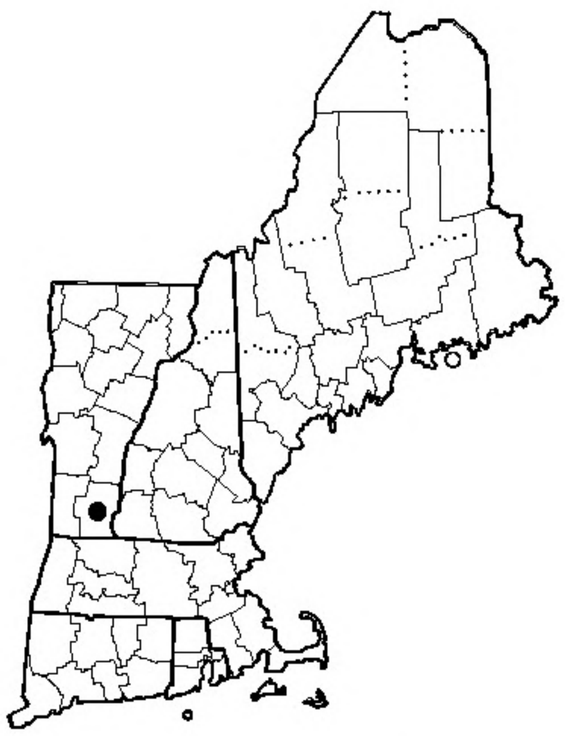
Rubus frondosus
X *R. jaysmithii*



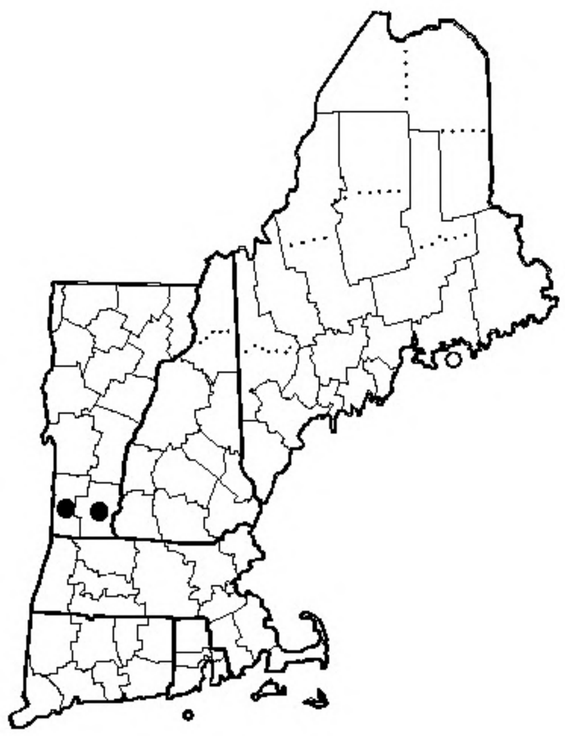
Rubus frondosus
X *R. recurvicaulis*



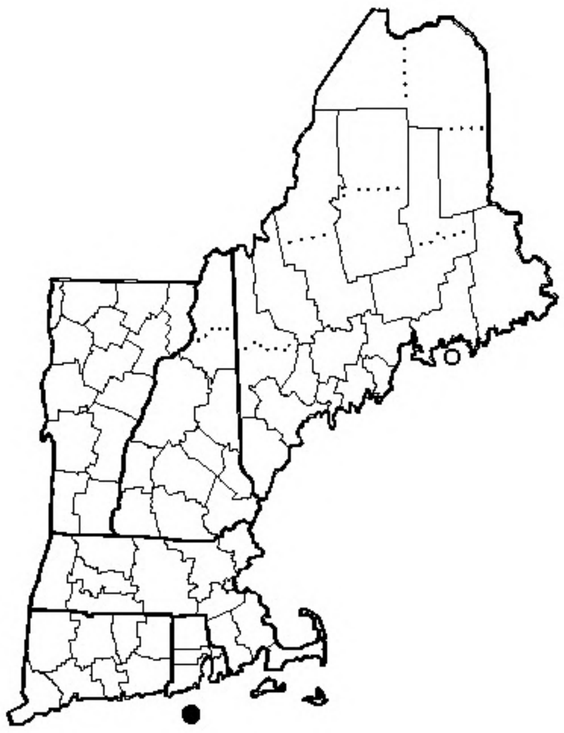
Rubus frondosus
X *R. semisetosus*



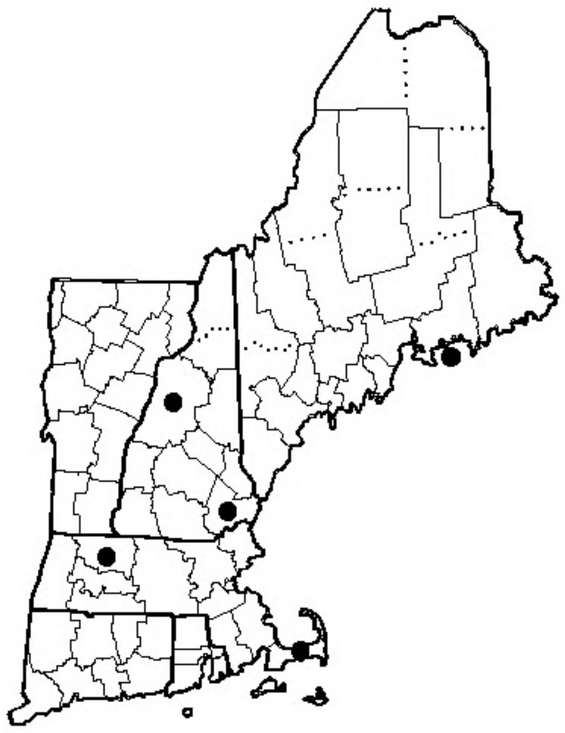
Rubus frondosus
X *R. setosus*



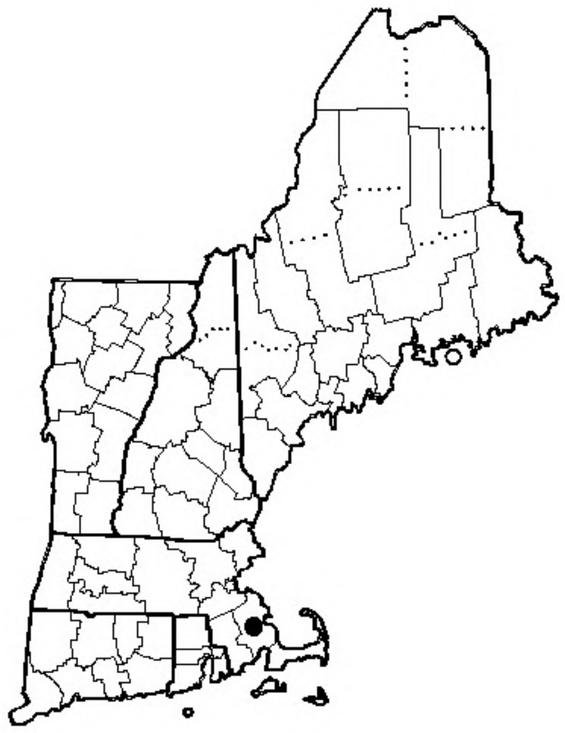
Rubus frondosus
X *R. vermontanus*



Rubus hispidus
X *R. jaysmithii*

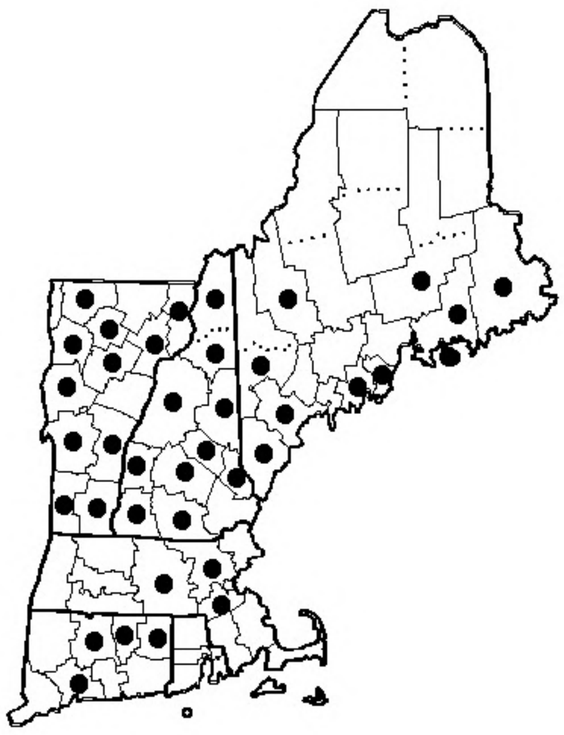


Rubus hispidus
X *R. recurvicaulis*

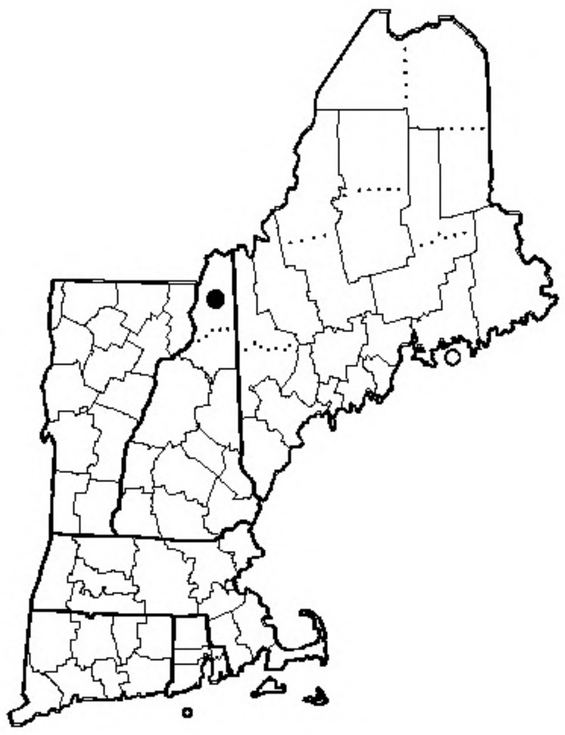


Rubus hispidus
X *R. semisetosus*

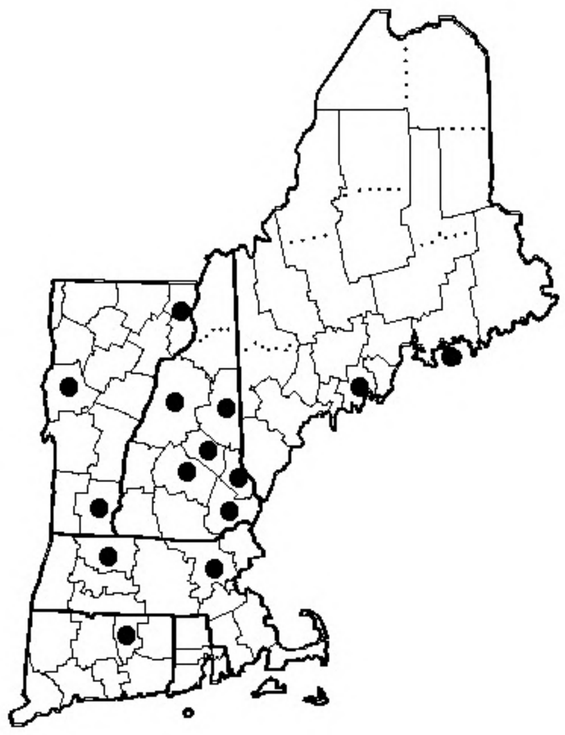
Figure 27. Distribution maps.



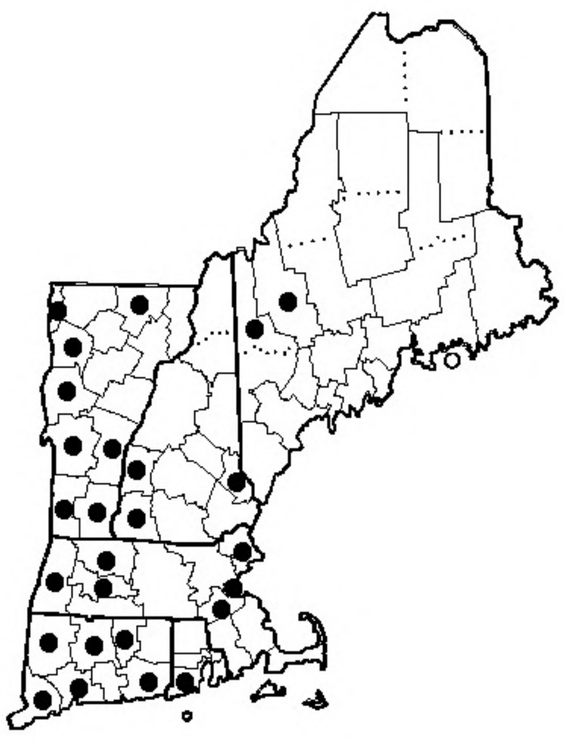
Rubus hispidus
X *R. setosus*



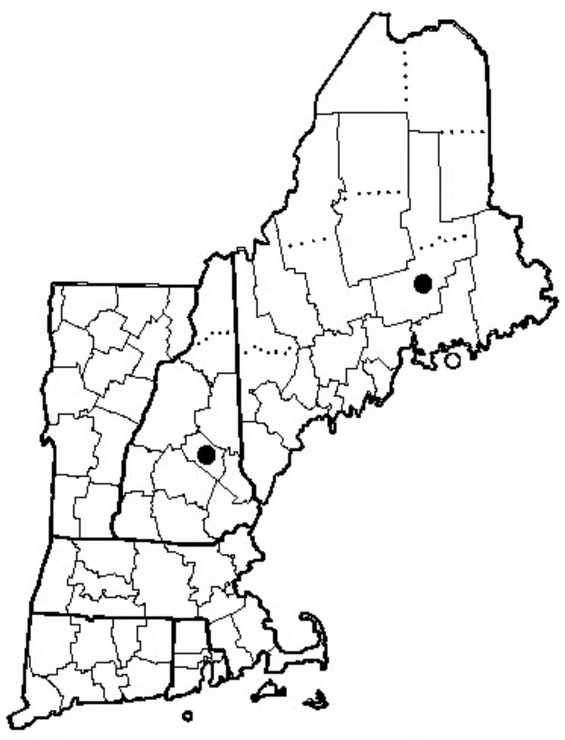
Rubus hispidus
X *R. setosus* X *R. vermontanus*



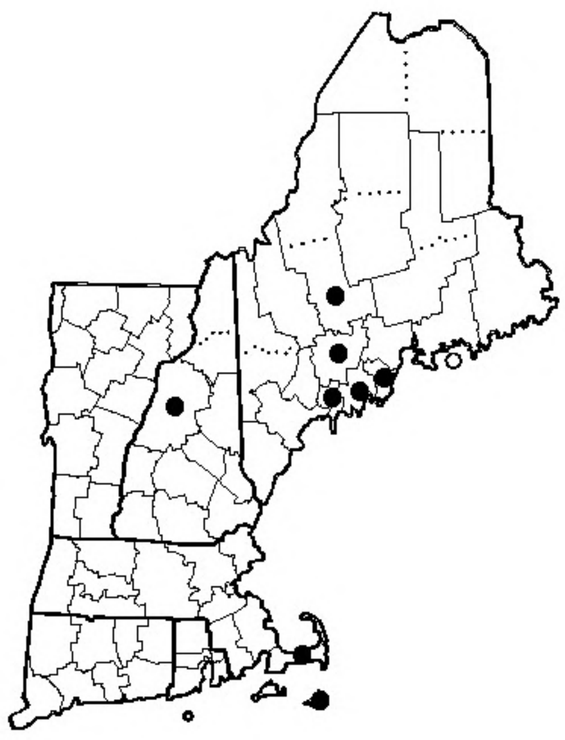
Rubus hispidus
X *R. vermontanus*



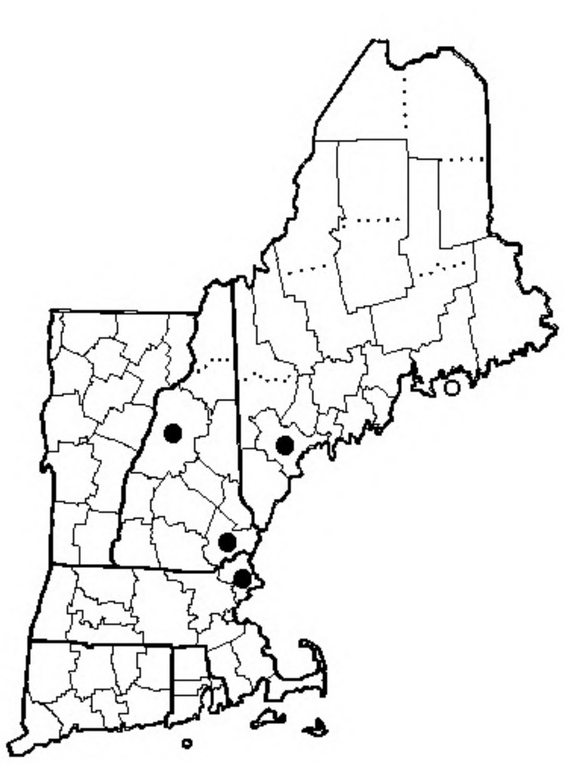
Rubus X *neglectus*



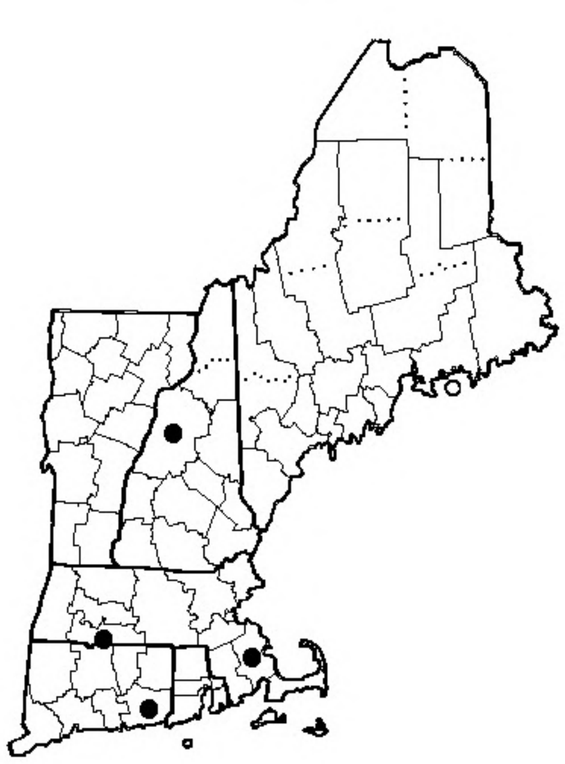
Rubus pensilvanicus
X *R. recurvicaulis*



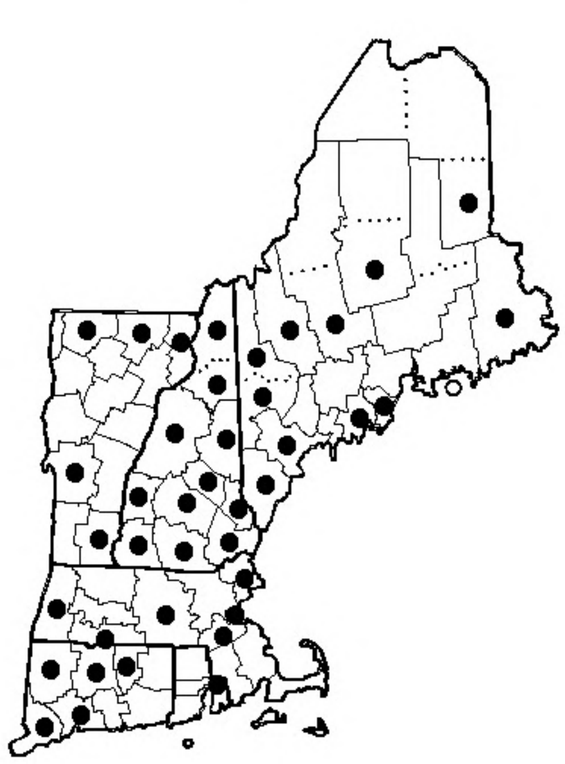
Rubus recurvicaulis
X *R. setosus*



Rubus recurvicaulis
X *R. vermontanus*

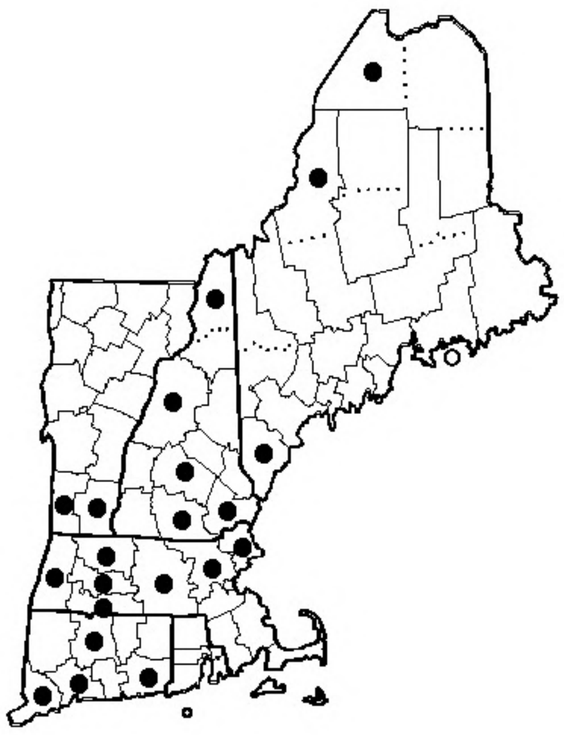


Rubus semisetosus
X *R. setosus*

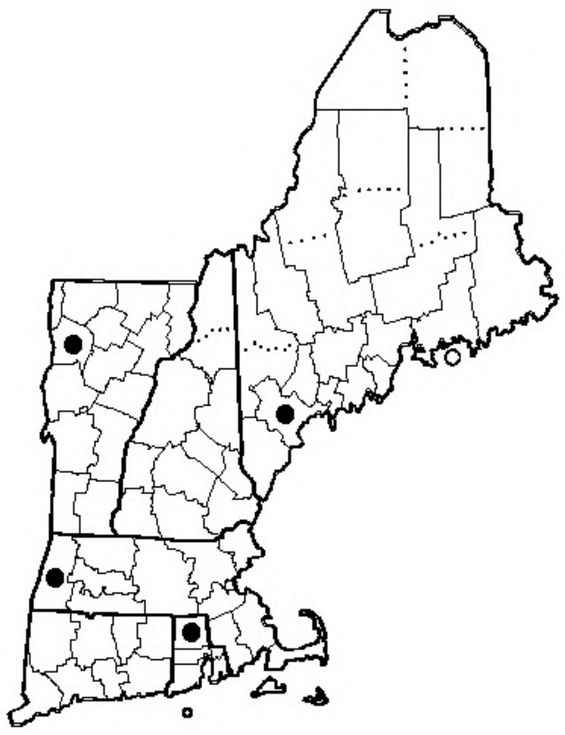


Rubus setosus
X *R. vermontanus*

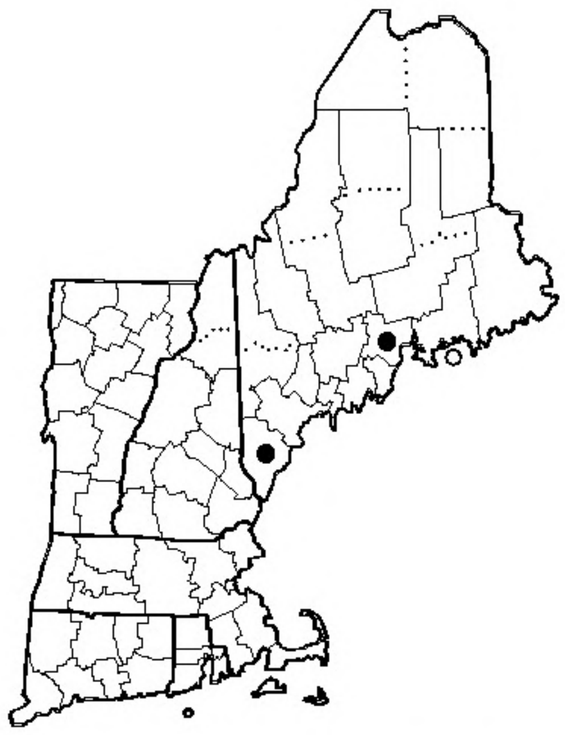
Figure 28. Distribution maps.



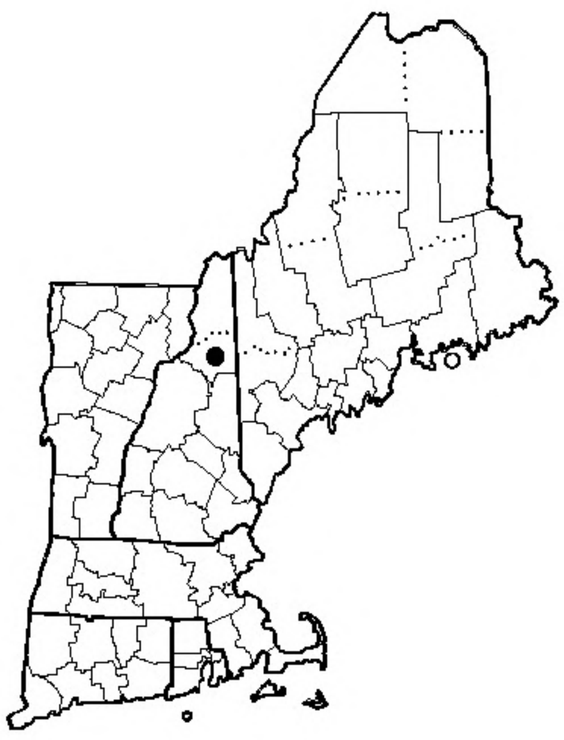
Sanguisorba canadensis



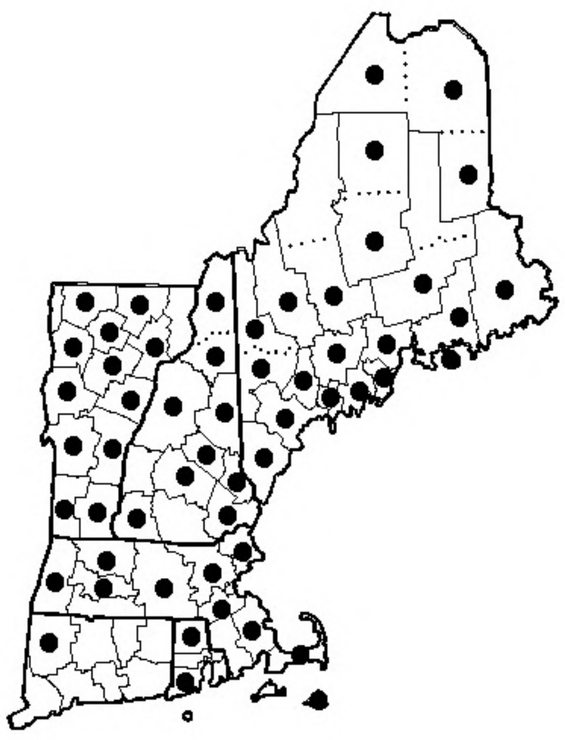
SANGUISORBA MINOR
subsp. *MURICATA*



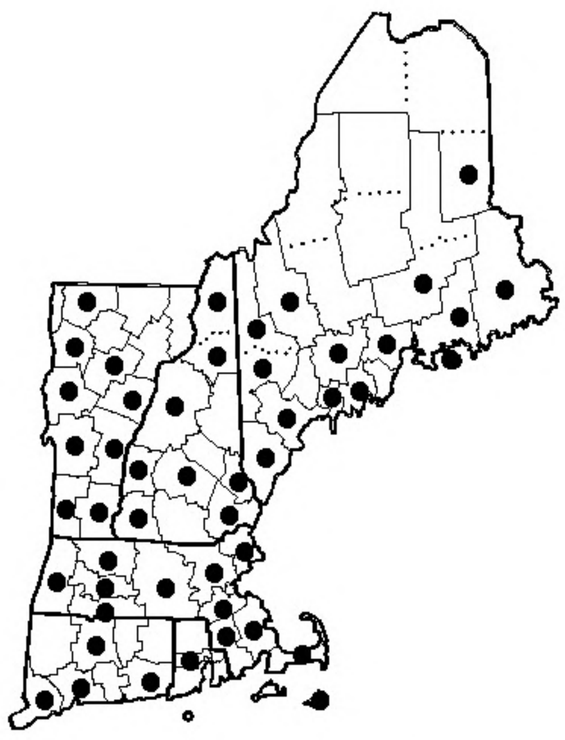
SANGUISORBA OFFICINALIS



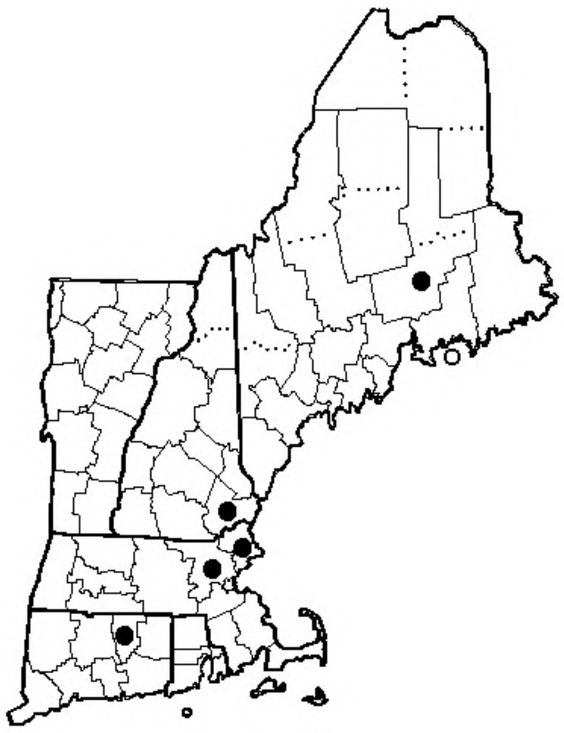
Sibbaldia procumbens



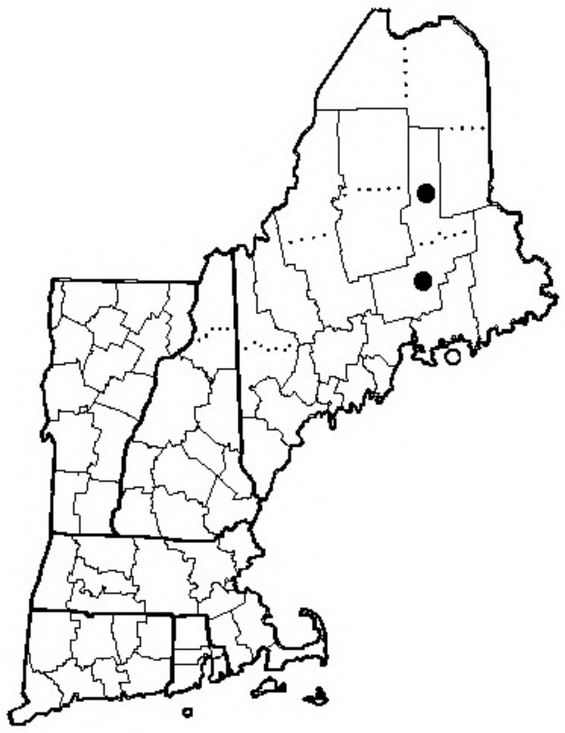
Sibbaldiopsis tridentata



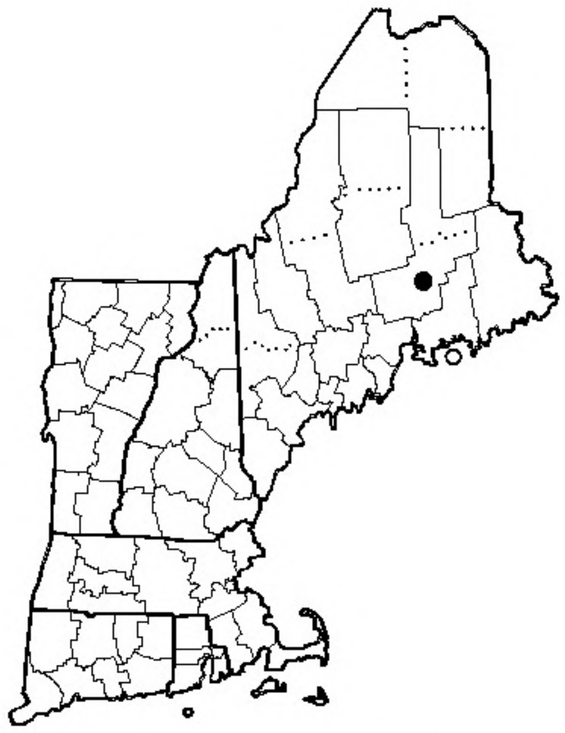
SORBARIA SORBIFOLIA



X *SORBARONIA FALLAX*

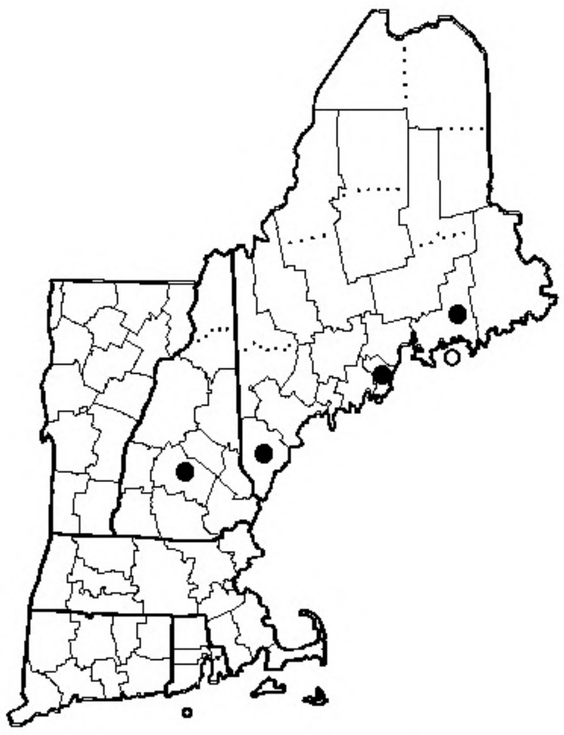


X *SORBARONIA HYBRIDA*

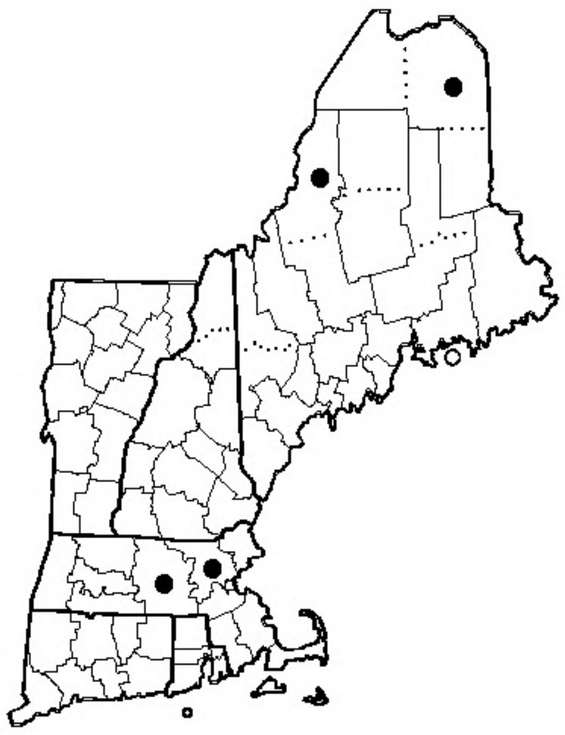


X *Sorbaronia jackii*

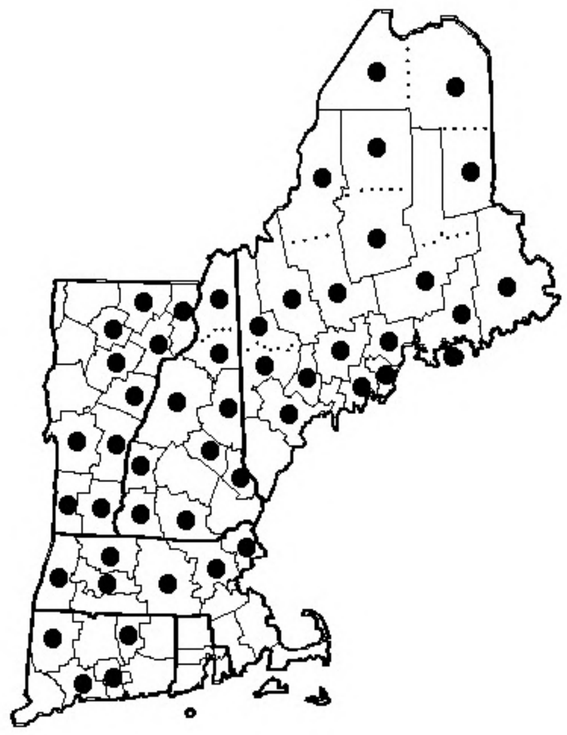
Figure 29. Distribution maps.



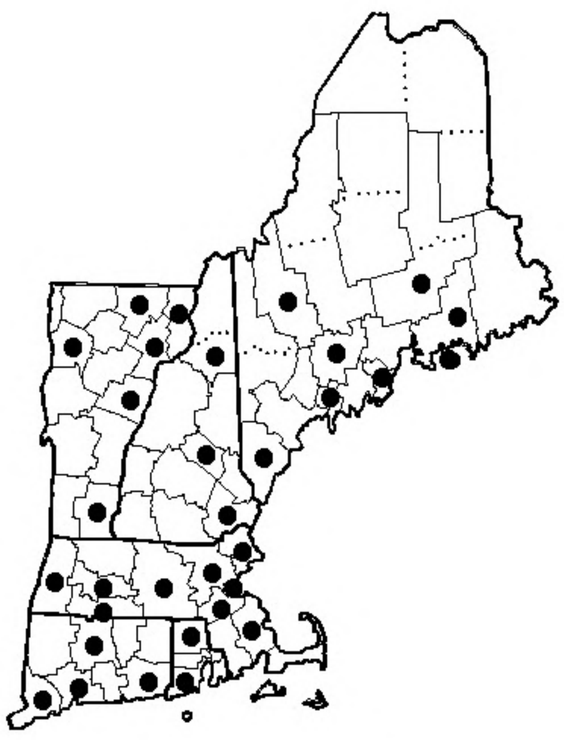
X *Sorbaronia monstrosa*



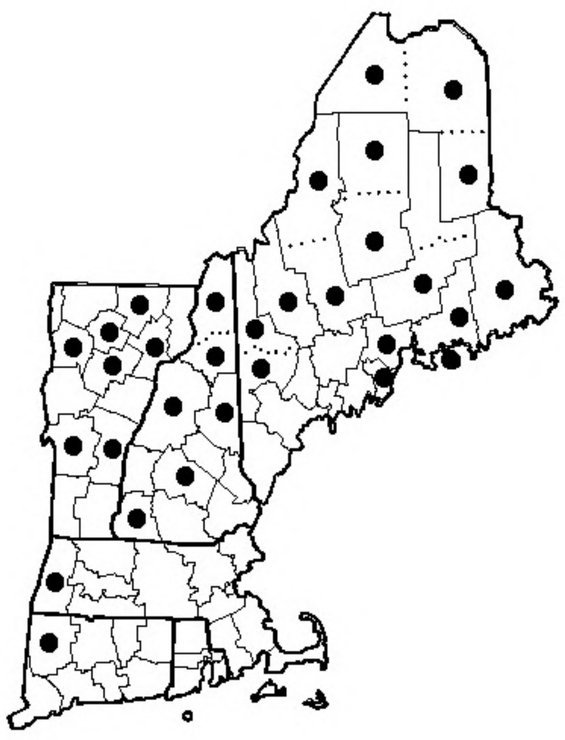
X *Sorbaronia sorbifolia*



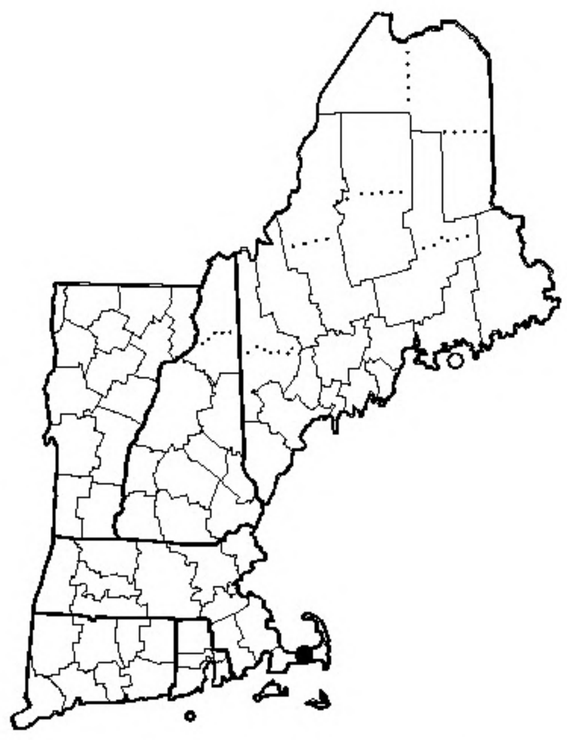
Sorbus americana



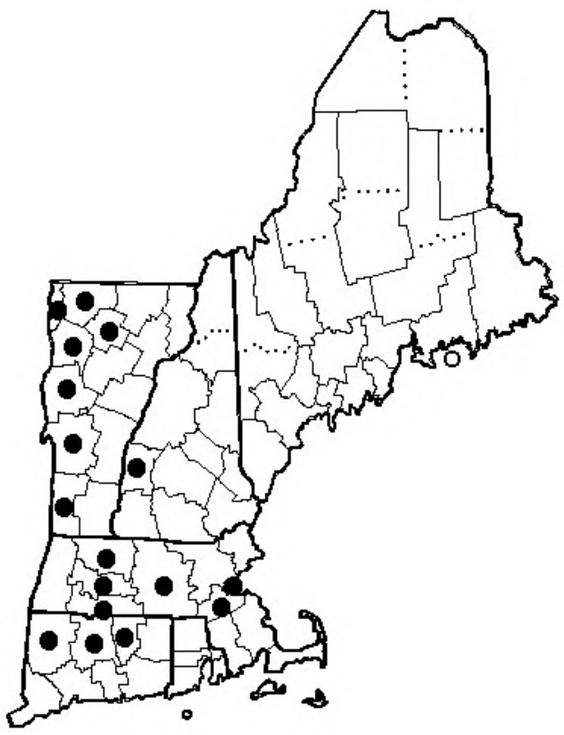
SORBUS AUCUPARIA



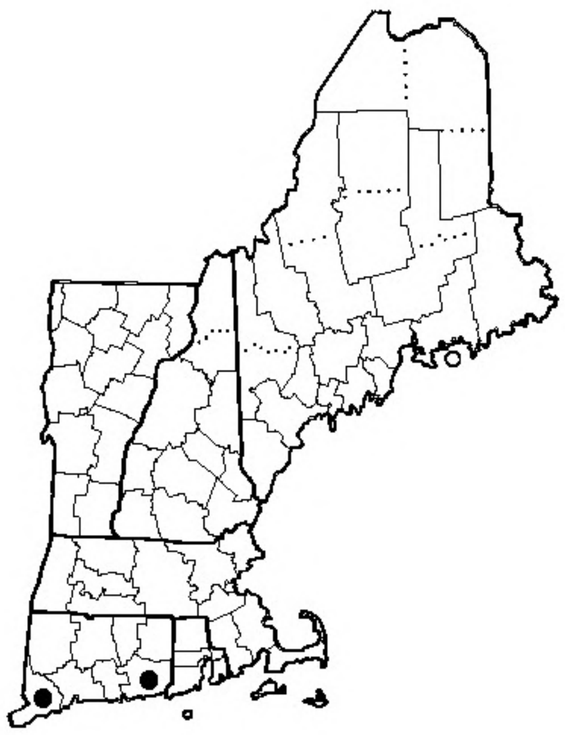
Sorbus decora



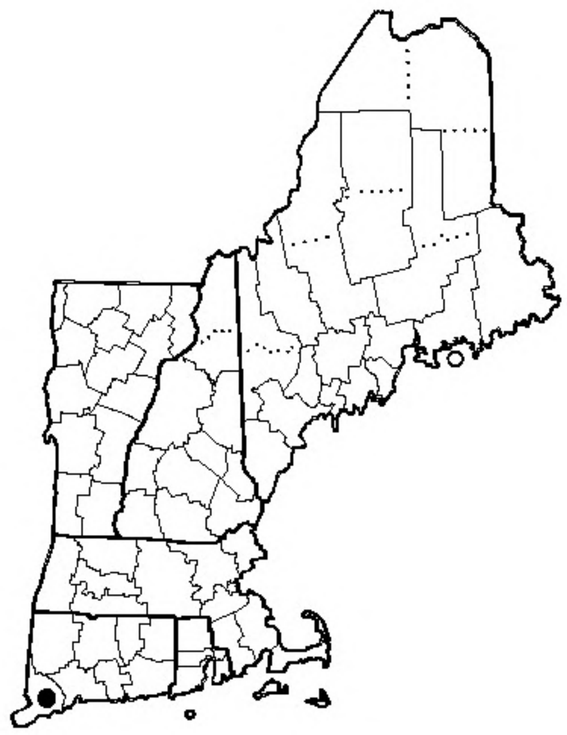
SORBUS INTERMEDIA



Spiraea alba

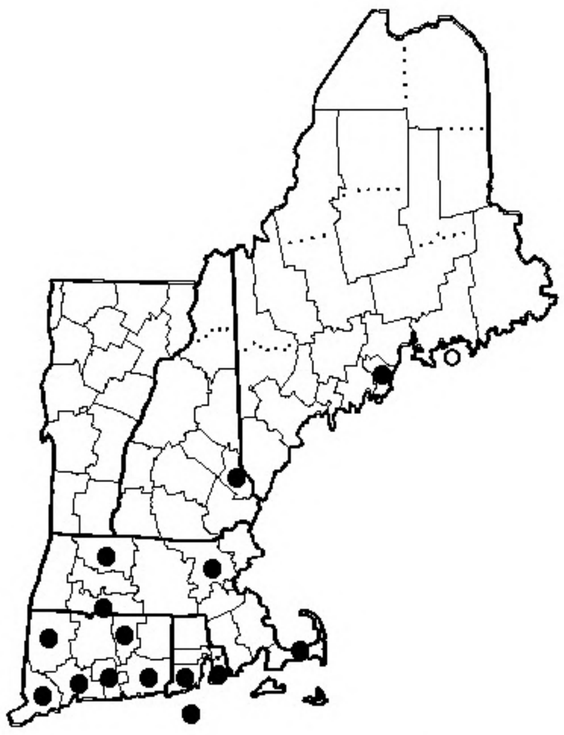


SPIRAEA CHAMAEDRYFOLIA

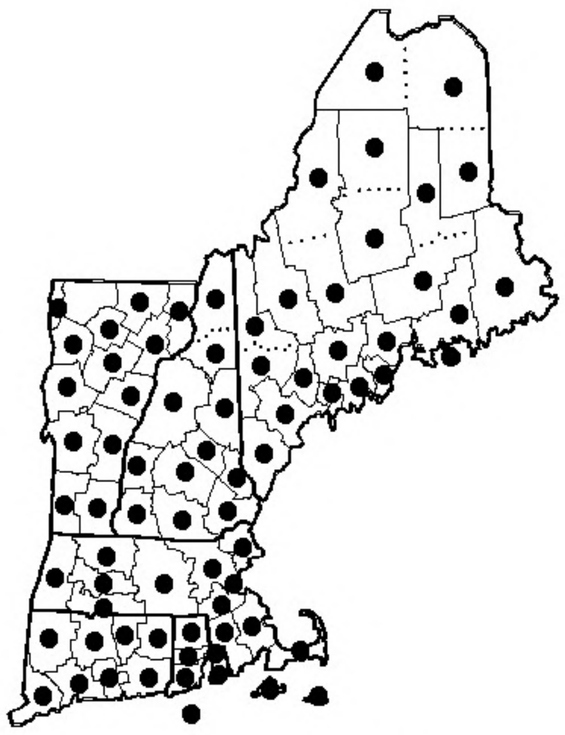


SPIRAEA HYPERICIFOLIA
subsp. *OBOVATA*

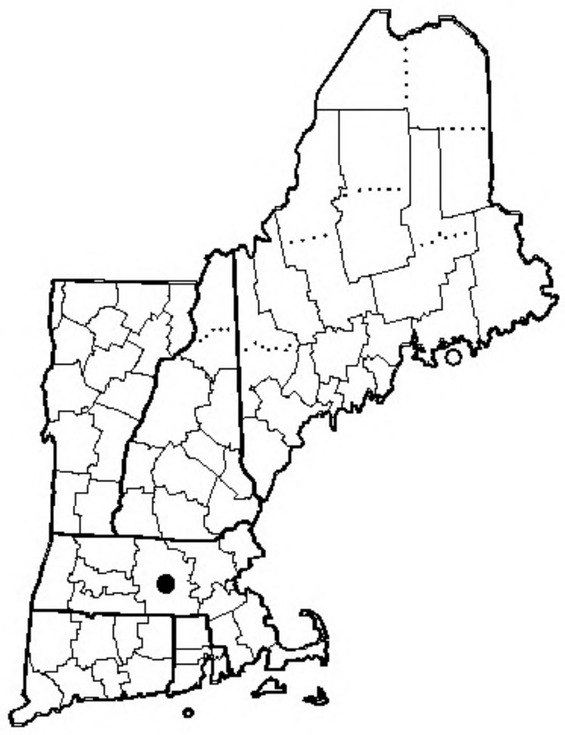
Figure 30. Distribution maps.



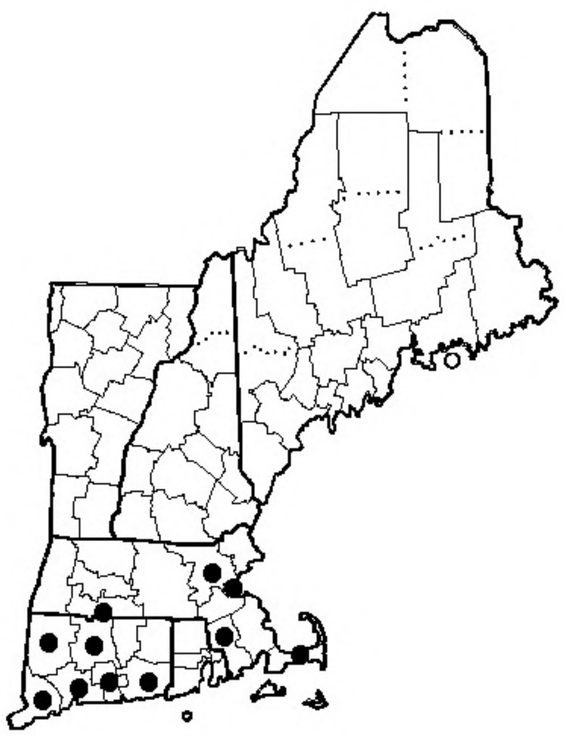
SPIRAEA JAPONICA
var. *FORTUNEI*



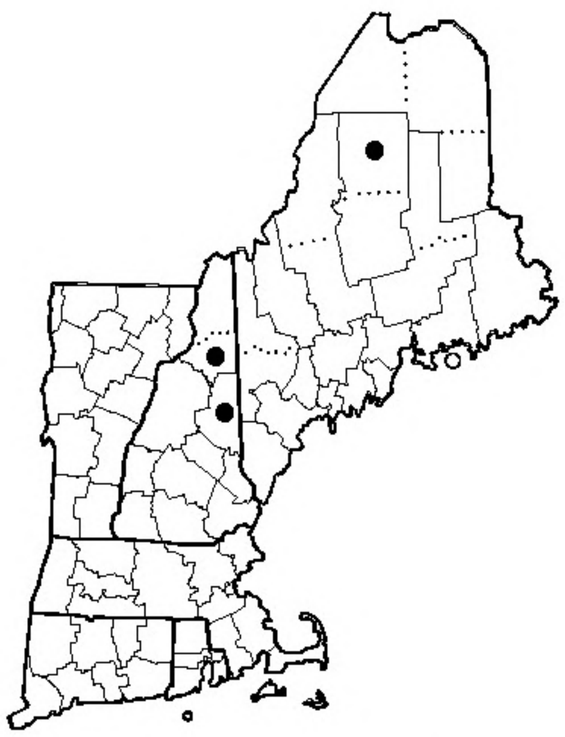
Spiraea latifolia



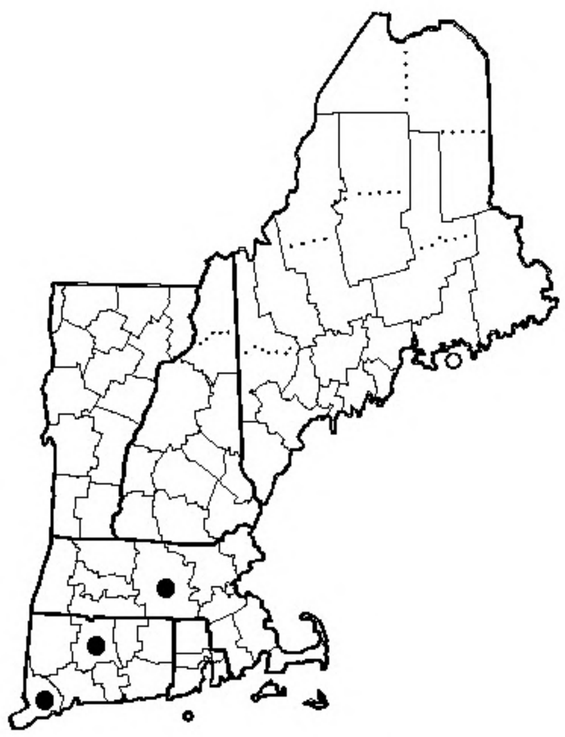
SPIRAEA NIPPONICA



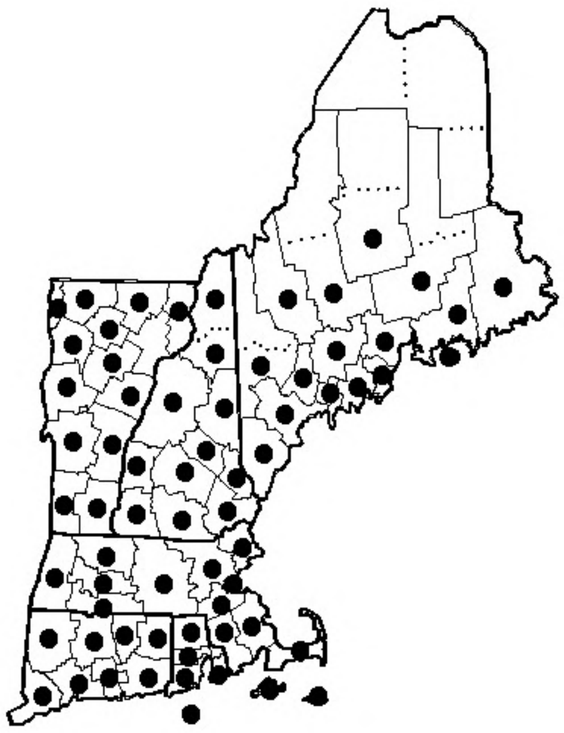
SPIRAEA PRUNIFOLIA



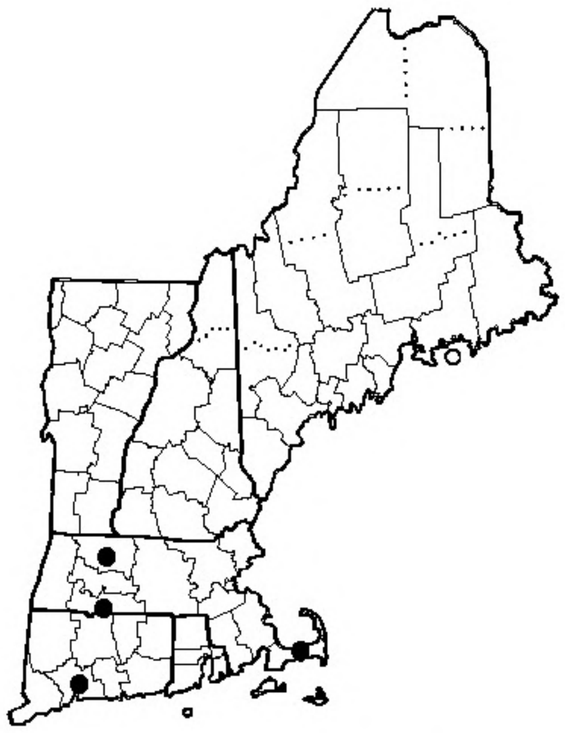
Spiraea septentrionalis



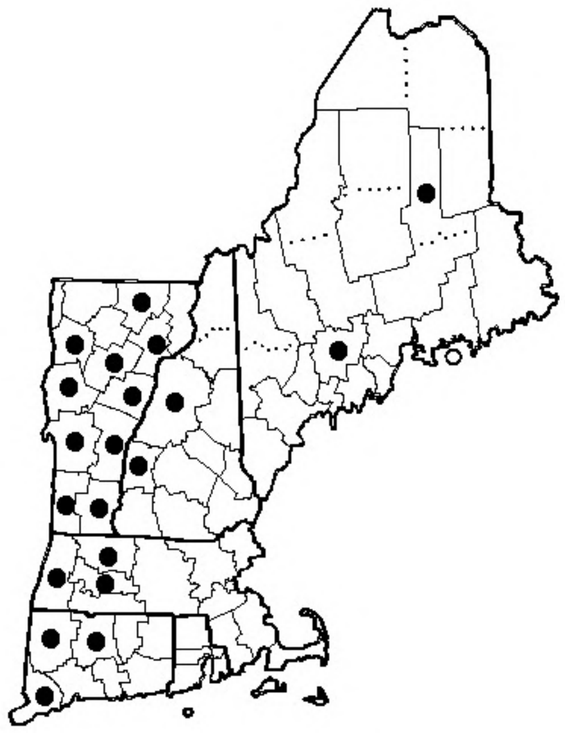
SPIRAEA THUNBERGII



Spiraea tomentosa



SPIRAEA X VANHOUTTEI



Waldsteinia fragarioides

Figure 31. Distribution maps.